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by Ruth I. Whitman, Thomas B. McKee, and Richard E. Davis

Langley Research Center

Langley Station, Hampton, Va.

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SUMMARY

Measured horizon radiance profiles in spectral bands of 615 cm^{-1} to 715 cm^{-1} (carbon dioxide) and 315 cm^{-1} to 475 cm^{-1} (rotational water vapor) from the Project Scanner flight of December 10, 1966 are shown. Data cover a latitude range from 13° North to 61° North. Excellent agreement between the measured and independently predicted radiance profiles in the CO_2 band where horizontal temperature gradients are small verifies the analytical technique. When the horizontal temperature gradients are large, the computational model used is inadequate for predicting radiance profiles. Seasonal and latitudinal variations in radiance profiles are shown to be primarily a function of the variations in temperature structures. In the 315 cm^{-1} to 475 cm^{-1} $\left(H_2O\right)$ region, mixing ratios of water vapor were deduced at low latitudes from the radiance measurements. Under both summer and winter meteorological conditions, the same trends in the mixing ratio above the tropopause are evident, that is, a region of relatively constant mixing ratio followed by a region of increasing mixing ratio.

INTRODUCTION

With the advent of space flight came the need for an applicable system of reference. The earth's horizon, used for navigation, guidance, and control, was the natural choice for a reference. The desire that a device used to sense the horizon or limb be independent of sun illumination led to devices sensitive in the infrared emission spectrum of the earth and its atmosphere.

A complete developmental background of the use of the infrared emission of the earth's atmosphere as an attitude reference as well as the scope of the measurement in both the 615 cm^{-1} to 715 cm^{-1} (14.0μ to 16.3μ) carbon dioxide region and the 315 cm^{-1} to 475 cm^{-1} (21.1μ to 31.8μ) rotational water band made by Project Scanner is to be found in reference 1.

Since the infrared horizon is a function of the thermal emission of the earth's atmosphere, a knowledge of the variability of the horizon as a function of geography and season

was essential. The purpose of this report is to present the horizon radiance profiles measured during the flight test conducted in December 1966. The relation of this experiment and its results to that of the flight test conducted in August 1966 and reported in reference 1 is given. Pertinent data concerning the instrument used and the meteorological situation existing at the time of the flight are presented. Comparison is made between analytical and measured profiles. Comparison of the measured seasonal variations as well as latitudinal variations is presented. Measured and analytical profiles are presented in tabular form.

DESCRIPTION OF EXPERIMENT

The winter flight experiment of Project Scanner was conducted on a suborbital rocket vehicle launched from Wallops Island, Virginia, at 0242 GMT on December 10, 1966. Reference 1 gives the detailed background on Project Scanner along with a basic description of the experiment and instrumentation. The primary purpose of the December flight was to gain insight into some of the seasonal variations in the horizon radiance profiles that could be expected from the variability of the temperature structure of the atmosphere as a function of both season and geographic location.

A three-stage, solid-rocket vehicle propelled the payload to a peak altitude of 709 km. Figure 1 shows an operational schematic of the flight. The launch vehicle was aerodynamically stabilized, the spacecraft containing the instrumentation being spin stabilized as it exited the atmosphere. The spacecraft was despun to a nominal 3/4 Hz after burnout of the third-stage motor and was erected so that its spin axis was near the local vertical. The spacecraft near-vertical orientation was accomplished by a reaction jet system that derived its information from a horizon sensor (sensitive primarily in the window region of the spectrum) and a rate gyro. (See ref. 2.) Since the spacecraft retains the spin-stabilized inertial attitude while the direction of the local (earth) vertical changes as the vehicle traverses a trajectory over a spheroid, a programmer initiated three subsequent orientations to the local vertical by using the reaction jet system. Data gathering started at 415 km, continued through apogee near 709 km, and ended near 381 km. At lower altitudes, the mirror scans did not take the field of view sufficiently off the earth to establish a zero radiance space reference. Data gathering was interrupted for three 20-second periods over this altitude region to allow reorientation to the local vertical.

To facilitate the understanding of the experiment and the experimental results, a general outline of the techniques and the pertinent details of the equipment utilized is essential. Since a detailed discussion of the instrumentation and experimental technique is available in the references, primary emphasis in this discussion of the experimental

technique will be concerned with the differences between the winter flight reported in this paper and the summer flight reported in reference 1.

Dual Radiometer

General description.- The radiometers for the December and August flights were designed to the same specifications and were described in references 1 and 3. Reference 3 presents detailed manufacturers' information concerning the fabrication and testing of the radiometer. The dual radiometer was essentially two similar radiometers mounted back to back. Two planar scanning mirrors in the dual radiometer assembly caused the field of view of each detector to scan the earth's limb in the vertical and thereby to measure the horizon radiance profile. This near-vertical scanning of the atmosphere gave the basic measurement of the radiance profile and the spin of the vehicle caused the azimuthal variation of the horizon crossings. The incoming radiation was directed by the scan mirrors into the 23-cm aperture of the Cassegrain optical system. In the converging beam, within appropriate baffling, and just prior to the focal plane, filters were placed to define the spectral bandpass. At the focal plane a mask or field stop defined five elemental fields of view in each radiometer. Behind each field stop were five immersed thermistor bolometers as detectors. Signal processing electronics were mounted nearby. A discussion of the features that were unique to the radiometer flown in December follows.

Filters.- As in the August flight the primary passband for each radiometer was provided by a filter positioned in the converging beam just ahead of the focal plane. In the carbon dioxide band, nominally 615 cm^{-1} to 715 cm^{-1} (16.3μ to 14.0μ), the filter was an interference filter with substrates of germanium and press-sintered zinc selenide. In the rotational water vapor band, nominally 315 cm^{-1} to 475 cm^{-1} (31.8μ to 21.1μ), the filter used an interference coating on silicon for cut-on; potassium bromide provided the long wavelength cut-off.

Detectors.- Behind the field stop in each radiometer was a housing containing the five-element array of immersed thermistor bolometers. For the carbon dioxide band the immersion lenses were antireflection coated germanium and for the water vapor band the immersion lenses were antireflection coated silicon. The final spectral response of each radiometer was a function of the spectral characteristics of the mirrors, the filter, the immersion lens, and the detector. Figure 2 shows typical spectral responses in both the H_2O and CO_2 bands. The spectral characteristics of each channel were treated individually.

Fields of view.- The elemental field of view defines the spatial resolution of the radiometers. The elemental field of view for each of the five detectors in each array was determined by the field stop that was located in the local plane. At the 50-percent

response point, each field of view was nominally 0.025° in the vertical and 0.100° in the horizontal. Each field of view was separated by approximately 0.15° in the vertical. Representative field-of-view contours are presented in figure 3 for both sides of the dual radiometer.

Electronics.- The design features of the radiometer electronics stressed low noise, gain stability with temperature, and closely controlled frequency-response characteristics. The total frequency response of the radiometer was a function of the detectors as well as of the electronic processing of the signal. Measurements of the total radiometer frequency response were made for each detector through the radiometer electronics. Typical measurements of the total radiometer frequency response are presented in figure 4 for each passband.

Scan mirror.- Scan mirror position was determined from four coded mirror-position pickoffs at predetermined locations through the scan range. The coded pickoffs were combined with one detector channel output in each radiometer and telemetered to the ground. The estimate of the accuracy of the mirror-position measurement, an improvement over that reported in reference 1, was $\pm 0.015^{\circ}$ ($\pm 1\sigma$).

Radiometer calibration.- The method chosen to calibrate the dual radiometer was one that closely simulated the manner in which the dual radiometer was used in the flight experiment. References 1 and 3 contain detailed descriptions of the calibration procedures. An optical relay system was used to make the calibration sources appear at infinity and extended; that is, they fill the radiometer aperture and field of view. A chopping mirror operating at 5 Hz allowed the radiometer to view alternately two blackbody sources at different temperatures, and the voltage difference thus generated was measured. Radiometric calibration was conducted in a vacuum to prevent absorption by atmospheric CO_2 and H_2O.

Since the radiometer's responsivity was dependent on operating temperature, the radiometer was calibrated at the five operating temperatures of 10° C, 15.6° C, 21.1° C, 26.7° C, and 32.2° C. In the flight experiment the temperatures on the CO_2 side were near enough to 21.1° C to allow the 21.1° C calibration data to be used; however, the H_2O side was warmer and required an interpolation between the 21.1° C and the 26.7° C calibration runs.

A calibration run was started by cooling two blackbodies to 77° K (liquid nitrogen) to assure a proper zero level. Next the liquid nitrogen supply was cut off to one blackbody, and the blackbody was allowed to warm up. As the source slowly warmed, eight or nine calibration points were taken and the temperature of each blackbody measured. Reference 1 gives a discussion of how the calibration data are used in determining radiance values. Reference 3 presents the results of several calibration runs.

Star Mapper Data

The inertial attitude of the Scanner vehicle was determined from measurements furnished by a star mapper (refs. 4 and 5) mounted on top of the dual radiometer. The alinement of the star mapper and dual radiometer was measured very precisely.

Telemetry

An FM-FM telemetry system was used to transmit data from the radiometer and star mapper in real time. To obtain sufficient bandwidth for all 10 data channels, it was necessary to use a separate carrier for each radiometer. The frequency bandwidth requirement for the star mapper precluded the use of a subcarrier; thus a third carrier frequency was directly modulated by the star mapper output signal.

Radar

The requirement that the measured radiance profile be accurately positioned with respect to the earth and that the geographic location of the measured profile be determined necessitated an accurate spacecraft track; therefore, a transponder was used in the spacecraft to provide a C-band tracking signal for the AN/FPQ-6 radar located at NASA Wallops Station. The accuracy of the trajectory positional information with respect to a Fischer spheroid (ref. 6) was estimated to be ±0.5 km.

DATA REDUCTION

All data were transmitted to ground-based receivers and recorded as a function of time during flight. Timing was provided from a ground-based time generator and was recorded on magnetic tapes along with flight data in real time. In data reduction the primary data (star mapper, radiometer, and radar) were each processed as a function of time and finally combined to determine radiance as a function of tangent height. A detailed description of the data reduction process and an error analysis for the experiment are given in reference 1.

Radiance data were determined from the output voltage of the radiometer by using the preflight laboratory calibration and the assumption that the spectral shape of measured radiances was in agreement with the spectral shape of the radiance calculated by using the 1962 U.S. Standard Atmosphere. In the 615 cm^{-1} to 715 cm^{-1} (CO_2) interval the data from five detectors have been averaged to improve accuracy and ratio of signal to noise. In the 315 cm^{-1} to 475 cm^{-1} (H_2O) interval, averaging obscures the effects of clouds in the lower atmosphere since successive detectors do not observe identical effects. Consequently, data are given for individual detectors and for an average of five detectors. The results of an error analysis of radiometric accuracy are presented in the following table:

Radiance, W/m^2-sr	Absolute accuracy (±1σ), percent			Relative accuracy (±1σ), percent		
	CO_2	H_2O	H_2O averaged	CO_2	H_2O	H_2O averaged
12		±4	±4		±4	±3
6	±4	±7	±5	±3	±6	±4
3	±6	±12	±8	±4	±11	±6
1	±17	±35	±21	±11	±33	±17

Absolute accuracy is noticeably poorer at low radiance levels. A second type of accuracy of interest is relative accuracy which is the accuracy of one radiance profile relative to another or of one point to another within one profile. Tangent height is defined (fig. 5) as the distance along a geocentric radius vector from the surface to the point where the radius vector is normal to the line of sight which originates at the spacecraft. Tangent heights given are with respect to a Fischer spheroid. Results of an error estimate of tangent height are given in the following table:

Error source	Estimated error	Tangent height accuracy, km
Radiometer mirror position (±1σ)	±0.015°	±0.75
Radiometer time delay	±0.001 sec	±0.5
Star mapper (±1σ)	±0.008°	±0.4
Alinement of instruments	±0.005°	±0.25
Altitude (±1σ)	±0.5 km	±0.45
Total error (±1σ)		±1.2

The largest source of error is due to the moving mirror in the radiometer. Resultant accuracy is estimated at ±1.2 km (±1σ).

DATA PRESENTATION AND DISCUSSION

In this section measured profiles in both the 615 cm^{-1} to 715 cm^{-1} (CO_2) and the 315 cm^{-1} to 475 cm^{-1} (rotational H_2O) region of the spectrum are presented in tabular form and discussed. Comparisons between measured profiles obtained under summer conditions and those obtained under winter conditions for the same geographic conditions are presented and discussed. Mixing ratios of water vapor deduced from measured radiance data taken under winter conditions are presented and compared with the deduced summer condition mixing ratios.

Meteorological Rocket Network Support

It was desirable to predict horizon profiles in the 615 cm^{-1} to 715 cm^{-1} spectral region as had been successfully done in the summer flight. Consequently, soundings to measure temperature and wind velocity as near the Scanner launch time as practical were requested and obtained from six Meteorological Rocket Network (MRN) sites. The data obtained from this support as well as an analysis of these data and its accuracy is found in the appendix.

Measured CO_2 Profiles

A total of 71 measured profiles in the 615 cm^{-1} to 715 cm^{-1} region are presented in table I. The profiles were tabulated with 1-km spacing from 10 to 60 km and were ordered by increasing latitude. The geographic location of each profile was indicated by a mean latitude and longitude printed below the individual profiles and shown as solid symbols in figure 6(a). The boxed area in figure 6(a) represents an approximate spatial resolution typical of each measured radiance profile in the CO_2 band.

It was shown in reference 1 that variations in radiance profiles as a function of geographic location could be explained as being principally due to variations in atmospheric temperatures. Since atmospheric temperature variations occur primarily as a function of latitude with a secondary dependence on longitude (primarily in the northern latitudes), profiles were grouped geographically into cells and averaged to obtain a significant increase in the signal-to-noise ratio and therefore an increase in measurement accuracy. There is no true location of the measured cell profile since by definition this is an average of profiles whose mean latitudes and longitudes are clustered in a geographic area. In reference 1 the geographic grouping of profiles was done to facilitate the comparison of measured profiles with the independently derived analytic profiles as well as to increase measurement accuracy. Possible locations of constructed temperature pressure sets from which the analytic profiles could be derived were constrained by the requirement that rawinsonde data be available to provide temperature and pressure data for the troposphere and lower stratosphere. It was expedient for comparison purposes to cluster the measured profiles gathered under winter conditions into approximately the same geographic areas as those used in the summer flight. For identification and comparison purposes only, a latitude and longitude were assigned to each cell. These latitudes and longitudes, roughly in the center of the cells, for winter meteorological conditions follow:

Cell number	Latitude, deg	Longitude, deg
1	57 N	92 W
2	60 N	72 W
3	58 N	55 W
4	51 N	45 W
5	42 N	42 W
6	33 N	46 W
7	25 N	46 W
8	19 N	51 W
9	17 N	59 W
10	14 N	67 W

Figure 7 presents the resultant cell average radiance profile as a function of the geographic location of the cell when winter meteorological conditions exist. It can be seen that there is a general decrease in peak radiance with increasing latitude under winter meteorological conditions. The increase in peak radiance in cells 1 and 2 as compared with cells 3 and 4 is due to the azimuthal scan in Project Scanner. In cells 3 and 4 as the scan mirrors traversed the horizon the spin of the vehicle caused the line of sight to move to the north so that the radiance measured at 10 km occurred at higher latitudes than the radiance at 40 km. In cell 1 the reverse occurred and the radiance measured at 40 km came from higher latitudes than that at 10 km. The cell radiance data are presented in tabular form in tables II to XII along with the maximum, minimum, and standard deviation as a function of tangent height. Standard deviations are indicative of the variability of the radiance profiles within each geographic cell.

Figure 8 presents the comparison between horizon radiance profiles measured under a winter synoptic situation and those measured under a summer (ref. 1) synoptic situation. Profile comparisons are made at 58° N, 33° N, and 17° N. The increase of peak radiance with increasing latitude in the summer contrasts with decreasing peak radiance with increasing latitude in the winter. The radiance profiles at 17° N for both synoptic situations were within 10 percent of each other over the entire tangent height range. At 58° N the radiance measured under winter conditions was the same at 60 km as that measured under summer conditions; however, at 40 km the winter radiance was only 48 percent of the summer radiance and at 10 km it was 69 percent of the summer radiance. Figure 8 also shows a comparison of all the profiles measured in the summer flight and winter flight. A greater variation in meteorological conditions was measured during the winter as evidenced by the larger standard deviation ($\pm 1\sigma$) on the solid curve than on the dashed curve at 20 km, 30 km, and 40 km. Profile variations are primarily due to changes in the temperature structure.

Figure 9(a) shows a comparison of the temperature structures at Antigua ($17^{o}9'$ N, $61^{o}47'$ W) found at the time of the August flight (ref. 1) and December flight. The extreme similarity of temperature profiles is reflected in the similarity of horizon profiles 17^{o} N in figure 8. Figure 9(b), the temperature structure at Fort Churchill under both synoptic situations, indicates that the radiance profiles at high latitudes should be very different. This effect is evidenced by the large difference in radiance profiles at 58^{o} N in figure 8. A comparison of the dashed curves shows that the temperatures observed in the summer in the most important 20- to 50-km range were higher in the north than in the south and thus the radiance was higher in the northern profiles. The colder temperatures in the north than in the south under winter conditions result in the decrease in peak radiance with increasing latitude already noted. The larger magnitude of the changes in temperature structure in the winter synoptic situation is another indication of the greater variation in meteorological conditions measured in the winter synoptic case.

Analytical Profiles for CO_2 Band

One of the conclusions in reference 1 was that the excellent agreement shown in the comparison of analytic and measured profiles verified the analytical technique to within the experimental accuracy. This conclusion was reached as a result of a flight conducted during the bland synoptic situation that is typical of summer meteorological conditions. The winter flight presented a more demanding test of the computational technique since temperature structures were more variable.

A fundamental restriction on the use of the radiance computational model in its present form is that spherical symmetry is assumed. This assumption actually means that each model atmosphere input is assumed to possess zero horizontal temperature gradient throughout its altitude range, and hence, computationally each model atmosphere is localized by tying it to a vertical line from the surface to 70 km. For example, the model atmosphere for Fort Churchill is strictly valid only over the point Fort Churchill, but in figure 6(a) the analytic profile locations – Fort Churchill, Manitoba; Trout Lake, Ontario; and International Falls, Minnesota – for the December flight are located in or near the boxed area. This box defines the geographic extent of the atmospheric area from which the data are gathered to define the average profile for cell 1. The two sweeps defining the length of the box are caused by the azimuthal scan of Project Scanner while the width of the box is defined by the angle subtended at the center of the earth by the line of sight (defined in fig. 5) through the portion of the atmosphere contributing most strongly to the radiance measurement.

This boxed area shows that the cell techniques used to group the experimental data near the point location of the model atmosphere have geographic extent; thus a direct comparison of a cell average of radiance values (obtained by averaging the radiance values at

each tangent height for each profile within the cell) to a model atmosphere tied to a vertical line from the surface to 70 km is never strictly possible. In summer synoptic cases, however, when the horizontal temperature gradients are normally weak in both latitude and longitude, the primary differences in the measured radiances at a given tangent point are due to noise rather than to differences in the applicable temperature structures. For such cases, comparison of an experimental cell's averaged radiance values to those of a point model atmosphere does not introduce the serious errors that can destroy the basis of comparison between the two.

Under typical winter synoptic situations when the horizontal temperature gradients cause temperature differences varying between 1° K at 20 km and 20° K at 46 km (see appendix) within the geographic area of concern, the comparison of a cell average profile to a point model atmosphere should not be expected to be valid. Figures 10(a) and 10(b) portray the difference in the temperature structure between typical summer and winter conditions more readily. Figure 10(a), plotted from the weather analysis in the appendix, is a cross section showing the behavior of temperature with altitude along a plane extending from Fort Churchill, Manitoba, to Antigua, West Indies, at the time of the December flight. For comparison purposes, figure 10(b) shows a similar cross-sectional plot for the time of the August flight (appendix B of ref. 1). Since figure 10 shows temperature structure along a plane between Fort Churchill and Antigua, it obviously does not give temperature structures for the locations of the model atmospheres but it does indicate that the horizontal gradients that can be expected within 7° of latitude in the winter can be larger than those found over the entire range of the measurements in August.

Figure 11(a) shows the comparison between the measured profile and the profile that was analytically computed from the temperature-pressure set for Antigua. (See appendix and table XIII.) The differences between the measured and predicted radiance profiles are well within the accuracies quoted for the measurement and for the analytic computation as would be expected by the relatively small temperature changes per degree latitude found between 17° N and 22° N. (See fig. 10(b).) This agreement provides a second verification of the analytical technique used to predict radiance profile. Figure 11(b) provides a graphical illustration of the difficulty, inherent in the tangential viewing of the atmosphere, of attempting to use one temperature-pressure set to predict a radiance profile when large horizontal temperature gradients are present. In figure 11(b) the measured profile for cell 1 is plotted with the analytical profiles given in table XIII for Fort Churchill, Trout Lake, and International Falls. The measured profile for cell 1 is basically within the range of radiances predicted by the three analytical models. Thus, when the horizontal temperature gradients are large, the computational model used is inadequate to predict radiance profiles for navigational purposes.

Figure 11(c) takes the three analytic profiles near cell 1 and shows the predicted errors in the analytic profiles. (See appendix.) The error bound on the Fort Churchill profile was assumed to be due only to lack of correction of the Meteorological Rocket Network (MRN) data for night conditions. (See appendix B of ref. 1.) The error bounds on International Falls and on Trout Lake have a possible map drawing error of $\pm 5^{\circ}$ K in addition to the corrections error. The overlapping of error bounds indicates the futility of trying to predict any analytical profile for this geographic cell location.

Measured Profiles for H_2O Band

A total of 75 measured profiles in the 315 cm^{-1} to 475 cm^{-1} (H_2O) interval are given in tables XIV and XV. Table XIV presents individual detector radiance data and has detector identification presented at the bottom. Table XV presents an average of the radiance measured by the five detectors during one horizon crossing. In both tables the profiles were tabulated with 1-km spacing from 0 to 35 km and were ordered by increasing latitude. The geographic location of each profile was located by a mean latitude and longitude printed below the individual profiles. Figure 6(b) shows the mean geographic location of the averaged water vapor radiance profiles.

There are radiometer limitations inherent in all the measured radiance profiles in the 315 cm^{-1} to 475 cm^{-1} interval that must be understood before the data can be utilized. The solid curve in figure 12 shows a typical radiance profile from an area known to be relatively clear. Radiance changes relatively slowly from 35 to 20 km and the frequency response of the radiometer was adequate. From approximately 15 km to 10 km, the slope is steep and the frequency response of the radiometer was exceeded; thus the shape of the slope could not be reproduced. The data most affected were between the radiance levels of 5 W/m^2-sr and 10 W/m^2-sr. Radiance values below 5 W/m^2-sr should be very good. The error analysis presented in the data-reduction section does not include the effects of frequency limitations of the radiometer.

The interpretation and analysis of the data in the water vapor band are more complicated than in the carbon dioxide band for two reasons:

(1) The mixing ratio for water vapor cannot be assumed to be constant as it is for carbon dioxide.

(2) Much of the radiance profile in the water vapor band occurs at tangent heights less than 15 km where local meteorological conditions affect the measurement strongly rather than above the troposphere where the CO_2 profile occurs. In other words, the analytical techniques applied to the CO_2 profiles are not strictly applicable to the H_2O profiles. The averaging of single detectors masks cloud effects since the clouds are geographically localized and each detector measures radiances from slightly different geographic locations. It is therefore informative to present single detector data to show

cloud effects even though the noise in the measurement is evident and could be reduced by the averaging technique with little loss of information above the tropopause. Figure 12 shows three single detector radiance profiles at 16.7° N, 53.8° W; 29.5° N, 42.8° W; and 61.2° N, 81.3° W. The profiles at 16.7° N and 61.2° N are both in areas indicated to be clear (as can be seen in the subsequent nephanalysis). The differences in peak radiances are therefore a function of only the temperature and mixing ratio differences. The profile at 29.5° N in figure 12 occurs in an area affected by clouds. The obvious cloud effect, a flattening of the profile at low tangent heights, cannot be completely separated from the effects of the temperature changes or the mixing ratio changes.

Figure 13 presents the nephanalysis and the significant weather conditions (appendix) for the period near the time of the December flight. This nephanalysis represents a best estimate of the location of the cloud-covered areas and the altitude of the cloud tops. Radiance profiles which may exhibit cloud effects can be located in table XIV in two geographic areas indicated by the nephanalysis to be cloud affected. One area is between 45° W to 75° W and 55° N to 62° N. The other area is between 42° W to 55° W and 20° N to 35° N. The cloud-affected profile at 29.5° N (fig. 12) shows that the estimated cloud-top altitude (fig. 13) is probably too high.

Water Vapor Mixing Ratios

Since the horizon radiance profiles due to the emission spectrum of an atmospheric constituent is a function of the temperature and pressure of the atmosphere and the mixing ratio of the emitting gas, a knowledge of the mixing ratio as a function of altitude is essential for any analysis. The water vapor content of the troposphere was known to be highly variable from the standard measurements made by many rawinsondes. Above approximately 10 km, mixing ratios have not been systematically measured and therefore were not available for this experiment. However, mixing ratios have been determined from measured radiance profiles in the range of 13 km to 35 km as outlined in reference 1.

Figure 14, an average of the profiles at 17.3° N, 52.2° W; 17.6° N, 55.6° W; 19.9° N, 49.8° W; 19.9° N, 50.9° W; 20.8° N, 47.8° W; 21.3° N, 51.8° W; and 21.4° N, 47.3° W for the winter meteorological situation (solid curve) and summer situation (dashed curve) (ref. 1), gives an indication of a seasonal effect in the radiance profiles. It was shown in the CO_2 analytical section that the temperature for Antigua (fig. 9(a)) and the CO_2 profiles at Antigua (fig. 11(a)) indicate little variation with season. The only other variable, since the profiles came from a clear area in both cases, is mixing ratio. By using the technique developed in reference 1, the mixing ratio was deduced for average winter radiances presented in figure 14 by using the average radiance given in table XVI and the temperature-pressure set measured at Antigua. (See appendix.) The assumption that

the Antigua temperature-pressure set represents the temperature and pressure for the range of latitudes present in the average is not invalid since the horizontal temperature gradients are small in the geographic region of concern. Table XVI also presents the deduced mixing ratio for the winter average profile and the profile analytically computed by using the deduced mixing ratio. Figure 15 is a comparison of the deduced mixing ratio for the December flight (solid curve) and the August flight (dashed curve) from reference 1. Above the tropopause (17 km for summer, 18 km for winter), the mixing ratios show the same trends – a region of relatively constant mixing ratio followed by an increasing mixing ratio.

Any attempt to deduce mixing ratio at high latitudes is frustrated by the large horizontal temperature gradients and therefore the inherent difficulty in determining an applicable temperature-pressure set, as has been previously noted.

CONCLUDING REMARKS

Horizon radiance profiles have been measured in two spectral bands of the absorbing atmospheric constituents CO_2 (615 cm^{-1} to 715 cm^{-1}) and H_2O (315 cm^{-1} to 475 cm^{-1}). Data were measured under typical winter meteorological conditions (December 1966) and cover a latitude range between 13^{o} N and 61^{o} N. There were 71 measured profiles in the CO_2 region and 75 measured radiance profiles in the H_2O region.

The measured peak radiance for CO_2 under winter meteorological conditions decreased with increasing latitude in contrast to the increase in measured peak radiance with increasing latitude measured under summer conditions.

At low latitudes under summer and winter conditions, the measured CO_2 radiances between 10 km and 60 km were within 10 percent of each other. This small seasonal variation in measured radiance is attributed to the small variation in the temperature structure.

At high latitudes, the CO_2 radiance measurements exhibited large seasonal variations. Between the tangent heights of 10 and 40 km, the radiance measured under winter meteorological conditions was from 30 to 50 percent lower than the radiance measured under a typical summer situation. The large radiance variations can be attributed to the large seasonal variations in temperature structure.

When horizontal temperature gradients were small, excellent agreement between analytic and measured profiles in the CO_2 band was obtained; however, when horizontal temperature gradients were large, the analytic technique used to predict radiance profiles for navigational purposes was inadequate.

The water-vapor mixing ratio was deduced for a low latitude condition. Under both summer and winter meteorological conditions, the same trends in the mixing ratio above the tropopause are evident – a region of relatively constant mixing ratio followed by a region of increasing mixing ratio.

Langley Research Center,
National Aeronautics and Space Administration,
Langley Station, Hampton, Va., July 16, 1968,
715-02-00-01-23.

APPENDIX

METEOROLOGICAL SUPPORT AND INTERPRETATION

By Richard E. Davis

The reasons for meteorological support for the data interpretation portion of the Project Scanner are given in appendix B of reference 1. The support given for the winter mission is of the same nature as that given the summer flight. For the winter mission, the horizontal temperature gradients within the atmosphere were much stronger than those existing on the summer flight; thus, it was important to obtain even more data than were obtained for the summer case, and it was necessary to derive more closely spaced model atmospheres for the winter mission.

Rocketsonde Support

The critical element for Scanner support was sufficient Meteorological Rocket Network (MRN) support. To this end, six MRN stations were requested to launch Arcas rocketsondes on the evening of December 9-10, 1966. All six sites, listed in the following table, fired rocketsondes to obtain wind and temperature data in support of the December flight.

Site	Launch date	Greenwich mean time (GMT)	Temperature data range, km	Wind data range, km
Fort Churchill	Dec. 10	0900	47.2 to 25.0	53.9 to 23.6
Wallops Island	Dec. 10	0352	46.0 to 37.0	55.0 to 34.0
White Sands	Dec. 10	0400	57.0 to 20.1	56.4 to 19.8
Eglin AFB	Dec. 10	0628	38.0 to 26.0	46.0 to 25.0
Antigua	Dec. 10	0337	55.8 to 24.5	53.0 to 24.8
Fort Sherman	Dec. 10	0630	65.0 to 20.0	58.3 to 20.2

It will be recalled that the launch time for the December flight was December 10 at 0242 GMT and it will be noticed that the launch times given in the table follow this time, by as much as almost 7 hours. This difference was due, first of all, to the fact that Scanner was launched earlier than planned because of surface wind problems at Wallops. Prelaunch MRN planning had set 0600 GMT as the target common MRN launch time. Some of the MRN sites were able to adjust their firing time to an earlier period. Others, because of surface wind, severe weather, or range problems, were unable to adjust their launch times forward. Thus, a scatter in launch times exists. It is uncertain what effects this scatter may cause in the temperature analyses. References 7 and 8 give

estimates of the diurnal temperature variation. Especially in the case of Fort Churchill, the temperatures in the mid-40-km region were probably higher than the MRN data might indicate. The amount, however, is not certain; therefore, no corrections were applied to the temperature data to account for the lack of uniformity of launch time.

The MRN data from all six sites used for this flight, most of which are also available in reference 9 (with the exception of the Fort Churchill data) are presented in abbreviated form in tables XVII to XXII.

Temperature Analyses

Because of the strength of the horizontal temperature gradients which existed for the case of the winter flight, it was decided to draw the constant-altitude temperature analyses at altitude intervals of 2 km, rather than at the 5-km intervals used when summer conditions prevail. Pressure was computed by means of hydrostatic buildup. A base pressure (typically 50 millibars; 1 millibar = 1×10^2 N/m^2) corresponding to an altitude below the rawinsonde maximum altitude, was used to ensure accuracy in the buildup results. Temperature analyses were made up to 54 km. Examples of the temperature analyses are shown as figure 16. An interesting feature of the analyses is the apparent strong warm cell north of the White Sands site, at altitudes 36 to 48 km. This warm cell is to be contrasted with the coldness of the pattern over Canada, drawn to agree with the cold temperatures at Fort Churchill. Above 54 km, temperatures were estimated by utilizing reference 10.

Model Atmospheres

The stratospheric and mesospheric temperature data, discussed previously, were combined with appropriate rawinsonde data to yield model atmospheres, from the surface to 70 km, for the locations: Fort Churchill, Trout Lake, International Falls, and Antigua. These model atmospheres are presented as table XXIII.

Nephanalysis

In order to evaluate better the effects of cloud cover on the measured radiance profiles for the rotational water vapor band, a nephanalysis was drawn. Unfortunately, however, the Nimbus II minimum resolution infrared radiometer MRIR had ceased functioning by December 10, 1966, and the data (that is, night radiometric data on clouds) were not available for this flight. Therefore, daytime cloud pictures from the ESSA satellite were employed in constructing the nephanalysis presented in figure 13. On this figure, cloud heights are only estimates consistent with what radar summary charts, surface and aircraft observations would lead one to deduce. The surface fronts for 0000 hours GMT, on December 10, obtained from standard U.S. Weather Bureau analyses, also appear in this figure.

APPENDIX

Accuracy

The accuracy of the model atmospheres derived in support of the December flight was determined by (1) MRN data accuracy and (2) error in placing the thermal-wind derived isotherms on the constant-altitude temperature analyses.

An estimate of the MRN data accuracy was prepared in reference 1, for the support of the August flight. By summarizing the results here, it is estimated that the measured rocketsonde temperatures can be higher than the true temperature by the following amounts:

Altitude, km	Correction, $^{\circ}$K
30	1
40	3
50	5
60	8

For the winter synoptic situation analyzed, with the moderate to strong horizontal temperature gradients typical of the winter season, the error in the placement of the isotherms is assumed to be $\pm 5^{\circ}$ K over the North American continent and the Caribbean, and $\pm 10^{\circ}$ K over the Atlantic east of Bermuda. The combination of the two errors is shown in table XXIV.

As an estimate of error in a model atmosphere's radiance profile, due to errors in the meteorological data from which the atmosphere was constructed, the root sum square error for selected tangent heights is formed for the two causes of error discussed. It will be noted that this error will not be symmetric with respect to the unperturbed radiance profile. The existence of MRN errors quoted means, essentially, lack of correction; therefore, the resulting level of radiance at each given tangent height would be too high. Of course, the map analysis error may be uniformly positive or negative, or a mixture of both. The result is plotted in figure 17.

For the August case, it was reasonable to use one table of radiance deviations over the entire geographic region, because of the small difference between analytical atmospheres chosen at northern and southern extremes for the region. For the December case, however, the great differences existing made it advisable to perform a separate error analysis for a representative northern atmosphere, to learn how the error bounds were affected. This analysis was made for the International Falls atmosphere. The results are presented as table XXV. It will be noted that the bounds decrease, in general, from those derived for the standard atmosphere.

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TABLE I

MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
10.0	0.00	5.00	5.19	3.62	5.04	5.14	4.84	5.01	5.18	5.06
11.0	0.00	5.04	5.22	3.15	5.05	5.18	4.88	5.01	5.20	5.10
12.0	0.00	5.05	5.23	3.61	5.04	5.21	4.90	5.00	5.22	5.12
13.0	0.00	5.09	5.24	4.49	5.05	5.20	4.94	5.01	5.21	5.13
14.0	0.00	5.13	5.24	5.01	5.10	5.18	5.00	5.04	5.18	5.13
15.0	0.00	5.14	5.27	5.11	5.17	5.16	5.06	5.07	5.14	5.13
16.0	0.00	5.12	5.32	5.13	5.21	5.17	5.06	5.12	5.15	5.14
17.0	0.00	5.11	5.37	5.17	5.22	5.20	5.04	5.16	5.18	5.14
18.0	5.15	5.16	5.41	5.21	5.23	5.22	5.04	5.19	5.22	5.16
19.0	5.14	5.26	5.43	5.25	5.23	5.22	5.07	5.21	5.27	5.17
20.0	5.15	5.30	5.42	5.28	5.22	5.21	5.13	5.19	5.32	5.20
21.0	5.17	5.29	5.41	5.29	5.21	5.19	5.17	5.18	5.35	5.23
22.0	5.20	5.30	5.40	5.27	5.19	5.18	5.20	5.17	5.31	5.24
23.0	5.25	5.33	5.40	5.26	5.16	5.19	5.20	5.16	5.25	5.23
24.0	5.26	5.36	5.37	5.27	5.15	5.21	5.18	5.12	5.18	5.22
25.0	5.26	5.37	5.37	5.24	5.12	5.23	5.11	5.08	5.16	5.21
26.0	5.25	5.34	5.35	5.21	5.07	5.18	5.02	5.02	5.18	5.18
27.0	5.23	5.26	5.30	5.18	5.00	5.13	4.98	4.96	5.19	5.10
28.0	5.18	5.16	5.23	5.12	4.90	5.05	4.94	4.89	5.17	5.00
29.0	5.09	5.04	5.11	5.03	4.78	4.94	4.85	4.81	5.13	4.91
30.0	4.95	4.93	4.95	4.89	4.65	4.82	4.71	4.71	5.06	4.80
31.0	4.81	4.77	4.79	4.75	4.52	4.66	4.55	4.57	4.94	4.66
32.0	4.64	4.56	4.59	4.57	4.35	4.47	4.39	4.39	4.76	4.47
33.0	4.43	4.35	4.34	4.38	4.14	4.27	4.19	4.21	4.54	4.27
34.0	4.21	4.14	4.09	4.22	3.93	4.10	3.96	4.01	4.31	4.06
35.0	4.01	3.93	3.87	4.03	3.73	3.93	3.72	3.78	4.09	3.79
36.0	3.83	3.73	3.69	3.79	3.49	3.71	3.52	3.55	3.88	3.50
37.0	3.65	3.53	3.53	3.53	3.25	3.45	3.31	3.35	3.67	3.26
38.0	3.44	3.35	3.33	3.30	3.05	3.21	3.08	3.17	3.43	3.06
39.0	3.21	3.15	3.09	3.09	2.87	2.98	2.91	3.00	3.17	2.88
40.0	3.01	2.89	2.87	2.93	2.69	2.75	2.74	2.80	2.92	2.69
41.0	2.85	2.68	2.69	2.80	2.49	2.55	2.57	2.58	2.70	2.46
42.0	2.64	2.52	2.53	2.65	2.27	2.37	2.37	2.37	2.51	2.24
43.0	2.41	2.31	2.36	2.47	2.03	2.21	2.10	2.16	2.32	2.08
44.0	2.20	2.10	2.20	2.22	1.83	2.05	1.89	1.97	2.15	1.97
45.0	2.00	1.95	2.02	2.01	1.68	1.89	1.72	1.79	2.01	1.87
46.0	1.81	1.82	1.79	1.85	1.54	1.70	1.59	1.64	1.86	1.74
47.0	1.62	1.67	1.55	1.73	1.43	1.56	1.45	1.52	1.68	1.58
48.0	1.44	1.46	1.38	1.60	1.32	1.39	1.31	1.39	1.52	1.41
49.0	1.30	1.22	1.29	1.45	1.18	1.22	1.19	1.22	1.36	1.23
50.0	1.18	1.10	1.20	1.29	1.04	1.12	1.09	1.06	1.24	1.08
51.0	1.07	1.03	1.12	1.15	.97	1.00	.98	.94	1.17	.98
52.0	.97	.90	1.05	1.04	.91	.86	.84	.85	1.08	.91
53.0	.86	.73	.96	.93	.79	.77	.76	.75	.93	.84
54.0	.76	.64	.85	.78	.67	.69	.65	.64	.78	.73
55.0	.66	.61	.74	.63	.62	.59	.54	.54	.65	.61
56.0	.54	.51	.64	.51	.57	.48	.49	.46	.57	.56
57.0	.43	.42	.60	.42	.47	.42	.43	.39	.50	.54
58.0	.33	.33	.56	.37	.37	.41	0.00	.29	.44	.51
59.0	.23	.29	.47	.35	.31	.34	0.00	.21	.39	.43
60.0	.16	.24	.40	.29	.28	.27	0.00	.13	.33	.31
LAT.	13.2	14.7	15.4	16.2	16.5	16.8	17.5	17.7	19.1	20.2
LONG.	68.9	66.4	59.2	55.2	52.3	52.0	59.1	53.9	52.0	53.0
Cell	10	10	9	8	8	8	9	8	8	8

TABLE I.- Continued

MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
10.0	5.24	5.21	5.05	0.00	5.12	5.08	5.00	5.03	4.74	5.09
11.0	5.25	5.25	5.06	0.00	5.14	5.08	5.00	5.03	4.80	5.10
12.0	5.27	5.27	5.09	0.00	5.16	5.09	5.02	5.01	4.85	5.10
13.0	5.30	5.28	5.13	0.00	5.17	5.12	5.02	5.01	4.87	5.12
14.0	5.33	5.28	5.16	0.00	5.18	5.15	5.02	5.02	4.85	5.14
15.0	5.34	5.29	5.19	0.00	5.18	5.17	5.03	5.05	4.86	5.15
16.0	5.37	5.32	5.21	0.00	5.21	5.19	5.07	5.06	4.88	5.16
17.0	5.40	5.36	5.23	0.00	5.24	5.21	5.14	5.06	4.91	5.17
18.0	5.45	5.40	5.23	0.00	5.27	5.24	5.19	5.04	4.93	5.19
19.0	5.49	5.43	5.24	5.12	5.28	5.27	5.20	5.04	4.95	5.19
20.0	5.52	5.44	5.26	5.13	5.26	5.30	5.17	5.06	4.95	5.17
21.0	5.51	5.41	5.29	5.14	5.23	5.32	5.12	5.10	4.96	5.13
22.0	5.49	5.38	5.28	5.13	5.19	5.32	5.08	5.12	4.98	5.07
23.0	5.44	5.36	5.25	5.10	5.14	5.29	5.04	5.12	4.97	5.01
24.0	5.39	5.35	5.21	5.05	5.10	5.23	5.02	5.09	4.94	4.97
25.0	5.35	5.32	5.19	5.01	5.06	5.15	5.00	5.02	4.89	4.94
26.0	5.29	5.27	5.18	4.98	5.03	5.08	4.99	4.95	4.85	4.91
27.0	5.21	5.20	5.17	4.92	4.97	5.01	4.94	4.88	4.80	4.86
28.0	5.10	5.12	5.15	4.84	4.88	4.93	4.84	4.79	4.73	4.78
29.0	4.98	5.03	5.10	4.73	4.77	4.80	4.73	4.67	4.62	4.67
30.0	4.86	4.94	4.98	4.61	4.65	4.62	4.60	4.52	4.46	4.51
31.0	4.72	4.83	4.81	4.46	4.49	4.44	4.41	4.38	4.27	4.34
32.0	4.54	4.70	4.62	4.31	4.31	4.27	4.17	4.24	4.09	4.14
33.0	4.32	4.55	4.41	4.14	4.08	4.11	3.92	4.07	3.93	3.93
34.0	4.12	4.36	4.19	3.96	3.86	3.90	3.67	3.87	3.74	3.70
35.0	3.92	4.17	3.94	3.75	3.65	3.67	3.41	3.65	3.52	3.46
36.0	3.70	4.00	3.70	3.51	3.43	3.47	3.19	3.42	3.28	3.24
37.0	3.48	3.82	3.49	3.27	3.21	3.28	3.01	3.20	3.05	3.02
38.0	3.27	3.62	3.29	3.05	2.98	3.09	2.84	2.99	2.87	2.81
39.0	3.09	3.40	3.07	2.82	2.74	2.89	2.65	2.78	2.73	2.58
40.0	2.94	3.15	2.87	2.60	2.51	2.71	2.43	2.56	2.57	2.36
41.0	2.78	2.92	2.69	2.38	2.31	2.53	2.22	2.35	2.38	2.17
42.0	2.60	2.71	2.51	2.19	2.13	2.34	2.03	2.16	2.16	2.01
43.0	2.38	2.51	2.30	2.01	1.96	2.13	1.87	2.00	1.96	1.89
44.0	2.15	2.32	2.09	1.85	1.79	1.94	1.69	1.83	1.78	1.79
45.0	1.92	2.14	1.90	1.71	1.63	1.78	1.58	1.66	1.64	1.68
46.0	1.72	1.97	1.75	1.57	1.50	1.66	1.52	1.48	1.51	1.55
47.0	1.57	1.81	1.63	1.43	1.40	1.52	1.45	1.32	1.37	1.40
48.0	1.46	1.66	1.51	1.28	1.31	1.37	1.35	1.20	1.22	1.25
49.0	1.36	1.51	1.40	1.16	1.21	1.22	1.21	1.11	1.10	1.12
50.0	1.22	1.35	1.23	1.05	1.10	1.08	1.07	1.04	1.02	1.00
51.0	1.06	1.20	1.06	.93	.98	1.00	.96	.98	.95	.91
52.0	.96	1.05	.93	.82	.88	.93	.88	.90	.85	.85
53.0	.87	.95	.84	.74	.78	.83	.78	.81	.73	.80
54.0	.77	.90	.74	.68	.68	.71	.68	.70	.63	.76
55.0	.70	0.00	.65	.60	.60	.62	.60	.60	.57	.71
56.0	.62	0.00	.58	.50	.53	.54	.55	.53	.52	.61
57.0	.52	0.00	.53	.43	.47	.45	.51	.46	.45	.48
58.0	.45	0.00	.47	.39	.41	0.00	.42	.39	.36	.37
59.0	.42	0.00	.39	.34	.34	0.00	.35	.33	.26	.30
60.0	.35	0.00	.30	.29	.27	0.00	.30	.29	.19	.28
LAT.	20.9	21.2	23.7	24.1	24.4	24.5	25.2	27.7	27.8	28.0
LONG.	47.7	47.8	46.3	46.3	44.9	48.3	49.9	44.3	45.2	43.4
Cell	7	8	7	7	7	7	7	7	7	7

TABLE I.- Continued

MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
10.0	4.94	4.96	4.97	4.81	4.83	4.55	4.43	4.33	4.47	4.43
11.0	4.96	4.99	4.99	4.82	4.85	4.57	4.43	4.33	4.49	4.43
12.0	5.01	5.00	4.99	4.83	4.85	4.58	4.45	4.33	4.52	4.42
13.0	5.05	5.01	5.00	4.83	4.84	4.58	4.47	4.34	4.55	4.40
14.0	5.08	5.03	5.01	4.83	4.83	4.57	4.48	4.36	4.58	4.39
15.0	5.10	5.06	5.03	4.82	4.84	4.57	4.47	4.38	4.58	4.40
16.0	5.09	5.07	5.05	4.81	4.85	4.59	4.46	4.39	4.56	4.41
17.0	5.06	5.05	5.06	4.79	4.86	4.63	4.45	4.40	4.53	4.42
18.0	5.01	5.03	5.06	4.78	4.86	4.67	4.44	4.40	4.50	4.41
19.0	4.97	5.00	5.06	4.77	4.86	4.70	4.43	4.39	4.47	4.37
20.0	4.95	4.99	5.05	4.75	4.84	4.70	4.42	4.38	4.44	4.32
21.0	4.94	4.99	5.02	4.71	4.82	4.68	4.41	4.37	4.42	4.25
22.0	4.94	4.97	4.99	4.67	4.79	4.66	4.37	4.34	4.41	4.18
23.0	4.94	4.94	4.94	4.64	4.76	4.64	4.33	4.29	4.39	4.12
24.0	4.92	4.91	4.89	4.61	4.73	4.63	4.30	4.23	4.35	4.05
25.0	4.87	4.88	4.85	4.58	4.68	4.62	4.28	4.17	4.28	3.99
26.0	4.79	4.81	4.81	4.53	4.62	4.60	4.25	4.10	4.19	3.94
27.0	4.71	4.72	4.76	4.47	4.54	4.58	4.22	4.04	4.09	3.90
28.0	4.63	4.62	4.69	4.39	4.46	4.53	4.18	3.97	4.00	3.86
29.0	4.54	4.52	4.60	4.29	4.38	4.48	4.12	3.88	3.93	3.79
30.0	4.42	4.40	4.51	4.17	4.28	4.41	4.03	3.77	3.84	3.68
31.0	4.26	4.25	4.39	4.01	4.16	4.32	3.86	3.65	3.74	3.52
32.0	4.05	4.04	4.25	3.82	4.01	4.21	3.63	3.50	3.62	3.34
33.0	3.81	3.80	4.09	3.62	3.85	4.06	3.40	3.34	3.47	3.15
34.0	3.58	3.56	3.91	3.40	3.69	3.90	3.19	3.15	3.29	2.97
35.0	3.37	3.35	3.70	3.20	3.51	3.72	2.99	2.95	3.09	2.80
36.0	3.17	3.15	3.48	3.01	3.33	3.54	2.78	2.76	2.88	2.64
37.0	2.94	2.95	3.23	2.83	3.13	3.34	2.58	2.57	2.67	2.48
38.0	2.71	2.74	2.98	2.64	2.90	3.13	2.40	2.39	2.47	2.29
39.0	2.49	2.55	2.77	2.44	2.67	2.92	2.24	2.21	2.30	2.10
40.0	2.30	2.38	2.59	2.23	2.45	2.72	2.12	2.03	2.13	1.91
41.0	2.13	2.21	2.42	2.03	2.25	2.54	2.01	1.86	1.98	1.77
42.0	1.97	2.02	2.23	1.85	2.07	2.38	1.87	1.70	1.84	1.65
43.0	1.83	1.83	2.06	1.67	1.91	2.21	1.69	1.55	1.69	1.54
44.0	1.69	1.69	1.91	1.51	1.77	2.03	1.53	1.41	1.53	1.43
45.0	1.55	1.58	1.77	1.37	1.65	1.85	1.41	1.28	1.37	1.33
46.0	1.40	1.45	1.62	1.26	1.56	1.69	1.31	1.16	1.24	1.21
47.0	1.27	1.33	1.49	1.18	1.45	1.55	1.20	1.06	1.12	1.09
48.0	1.16	1.21	1.37	1.10	1.34	1.43	1.07	.96	1.01	.98
49.0	1.05	1.09	1.26	1.03	1.22	1.30	.94	.88	.91	.89
50.0	.96	.98	1.17	.96	1.12	1.16	.84	.81	.82	.79
51.0	.87	.87	1.06	.88	1.05	1.03	.77	.75	.73	.69
52.0	.79	.79	.95	.81	.98	.92	.69	.69	.64	.60
53.0	.71	.72	.84	.73	.91	.85	.63	.60	.56	.53
54.0	.64	.65	.73	.64	.83	.79	.58	.52	.50	.49
55.0	.56	.56	.65	.56	.75	.75	.55	.45	.44	.46
56.0	.48	.48	.61	.50	.68	.72	.50	.42	.40	.45
57.0	.40	.41	.58	.45	.64	.69	.44	.41	.38	.43
58.0	.34	.34	.54	.39	.62	.64	.39	.40	.35	.40
59.0	.29	.27	.49	.31	.60	.59	0.00	.35	.33	.36
60.0	.25	.19	.44	.25	.58	.55	0.00	.31	.31	.32
LAT.	28.4	30.0	31.5	32.0	32.8	34.7	36.0	36.7	36.9	39.3
LONG.	42.9	46.2	43.4	41.5	41.4	41.8	43.9	40.4	41.0	40.9
Cell	7	7	6	6	6	6	6	6	6	5

TABLE I.- Continued

MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
10.0	4.29	4.30	4.15	4.28	4.29	4.26	4.09	3.94	4.07	4.23
11.0	4.28	4.30	4.16	4.29	4.30	4.27	4.07	3.95	4.04	4.21
12.0	4.26	4.30	4.18	4.30	4.31	4.27	4.04	3.97	4.01	4.20
13.0	4.23	4.29	4.22	4.29	4.31	4.27	4.04	3.98	4.00	4.18
14.0	4.21	4.27	4.25	4.29	4.29	4.26	4.05	3.98	4.01	4.16
15.0	4.21	4.25	4.26	4.27	4.30	4.26	4.05	3.98	4.02	4.12
16.0	4.21	4.21	4.25	4.25	4.32	4.26	4.03	3.98	4.02	4.08
17.0	4.22	4.18	4.22	4.20	4.35	4.25	3.99	3.99	3.99	4.03
18.0	4.21	4.17	4.18	4.16	4.35	4.23	3.97	4.00	3.95	3.99
19.0	4.19	4.18	4.13	4.12	4.32	4.19	3.95	4.00	3.91	3.97
20.0	4.17	4.18	4.10	4.09	4.27	4.14	3.95	3.99	3.87	3.94
21.0	4.14	4.16	4.08	4.07	4.21	4.08	3.94	3.97	3.84	3.91
22.0	4.11	4.10	4.09	4.03	4.18	4.01	3.92	3.92	3.80	3.87
23.0	4.08	4.03	4.10	3.99	4.15	3.95	3.87	3.88	3.74	3.81
24.0	4.04	3.96	4.06	3.95	4.11	3.90	3.80	3.83	3.68	3.76
25.0	3.99	3.91	3.99	3.88	4.05	3.85	3.70	3.78	3.61	3.69
26.0	3.93	3.85	3.89	3.82	3.98	3.78	3.58	3.72	3.53	3.62
27.0	3.84	3.78	3.78	3.74	3.89	3.69	3.45	3.65	3.43	3.55
28.0	3.74	3.69	3.65	3.67	3.79	3.61	3.33	3.58	3.31	3.48
29.0	3.63	3.59	3.54	3.58	3.64	3.53	3.22	3.52	3.19	3.39
30.0	3.53	3.48	3.44	3.49	3.50	3.43	3.12	3.44	3.06	3.30
31.0	3.42	3.38	3.32	3.37	3.39	3.30	3.02	3.36	2.94	3.19
32.0	3.29	3.26	3.20	3.25	3.28	3.16	2.89	3.26	2.83	3.07
33.0	3.14	3.11	3.07	3.11	3.14	3.02	2.75	3.15	2.70	2.93
34.0	2.97	2.94	2.91	2.96	2.98	2.87	2.60	3.04	2.59	2.79
35.0	2.79	2.76	2.72	2.80	2.78	2.73	2.44	2.93	2.47	2.65
36.0	2.60	2.58	2.54	2.63	2.60	2.58	2.28	2.81	2.34	2.51
37.0	2.42	2.39	2.35	2.46	2.44	2.44	2.10	2.67	2.21	2.37
38.0	2.24	2.20	2.15	2.29	2.29	2.29	1.93	2.50	2.06	2.21
39.0	2.06	2.01	1.97	2.11	2.14	2.14	1.77	2.31	1.90	2.04
40.0	1.89	1.83	1.80	1.95	2.01	1.98	1.64	2.12	1.72	1.86
41.0	1.73	1.66	1.65	1.80	1.91	1.82	1.52	1.94	1.55	1.70
42.0	1.59	1.52	1.50	1.66	1.73	1.69	1.41	1.78	1.41	1.56
43.0	1.46	1.38	1.39	1.54	1.58	1.57	1.29	1.64	1.29	1.45
44.0	1.34	1.26	1.31	1.42	1.48	1.46	1.17	1.52	1.20	1.35
45.0	1.23	1.15	1.22	1.30	1.37	1.32	1.07	1.41	1.11	1.26
46.0	1.14	1.07	1.11	1.20	1.24	1.18	.98	1.29	1.01	1.16
47.0	1.04	.98	1.01	1.10	1.11	1.06	.89	1.16	.91	1.06
48.0	.95	.90	.91	1.02	1.00	.96	.81	1.02	.82	.97
49.0	.85	.82	.81	.94	.89	.90	.73	.90	.75	.89
50.0	.75	.74	.73	.86	.78	.83	.65	.81	.68	.81
51.0	.67	.65	.64	.77	.70	.76	.56	.74	.62	.72
52.0	.60	.56	.53	.69	.66	.67	.48	.67	.55	.64
53.0	.53	.50	.42	.62	.63	.60	.42	.60	.48	.56
54.0	.45	.47	.37	.57	.57	.54	.38	.52	.42	.49
55.0	.38	.44	.37	.54	.51	.50	.35	.44	.37	.43
56.0	.33	.42	.39	.53	.47	.47	.31	.37	.32	.38
57.0	.32	.38	.36	.52	.45	.47	.25	.32	.28	.33
58.0	.32	.33	.30	.50	.41	.46	.19	.27	.26	.29
59.0	.32	.30	.23	.47	0.00	.44	.14	.22	.24	.25
60.0	.29	.28	.19	.44	0.00	.40	.12	.18	.24	.22
LAT.	40.4	40.5	41.0	41.2	41.7	43.4	43.6	44.0	44.0	44.7
LONG.	41.1	40.1	43.3	40.1	45.6	41.8	41.0	42.4	40.5	40.8
Cell	5	5	5	5	5	5	5	5	5	5

TABLE I.- Continued

MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
10.0	4.09	3.72	4.16	4.07	3.98	3.95	3.93	4.03	0.00	3.83
11.0	4.05	3.74	4.16	4.09	3.99	3.97	3.91	3.96	3.86	3.84
12.0	3.99	3.78	4.14	4.11	3.99	3.99	3.90	3.92	3.90	3.83
13.0	3.93	3.79	4.12	4.11	3.98	4.00	3.90	3.90	3.89	3.81
14.0	3.90	3.77	4.08	4.11	3.97	3.99	3.90	3.91	3.88	3.78
15.0	3.89	3.74	4.05	4.12	3.93	3.98	3.90	3.93	3.84	3.75
16.0	3.90	3.73	4.02	4.14	3.87	3.97	3.89	3.95	3.81	3.71
17.0	3.91	3.73	4.00	4.14	3.80	3.97	3.87	3.95	3.79	3.66
18.0	3.89	3.72	4.00	4.13	3.73	3.94	3.84	3.93	3.77	3.59
19.0	3.86	3.70	3.99	4.09	3.66	3.90	3.81	3.90	3.73	3.53
20.0	3.81	3.62	3.94	4.02	3.61	3.83	3.76	3.88	3.67	3.47
21.0	3.75	3.58	3.89	3.92	3.57	3.76	3.69	3.87	3.61	3.43
22.0	3.69	3.56	3.82	3.83	3.53	3.69	3.61	3.85	3.54	3.37
23.0	3.63	3.49	3.76	3.76	3.49	3.63	3.49	3.83	3.47	3.31
24.0	3.56	3.41	3.69	3.68	3.42	3.56	3.37	3.77	3.39	3.26
25.0	3.49	3.33	3.61	3.60	3.33	3.49	3.26	3.68	3.28	3.21
26.0	3.43	3.25	3.51	3.51	3.24	3.42	3.17	3.57	3.15	3.16
27.0	3.36	3.16	3.42	3.41	3.15	3.33	3.09	3.46	3.01	3.09
28.0	3.29	3.06	3.32	3.31	3.06	3.23	3.01	3.35	2.88	3.00
29.0	3.19	2.95	3.21	3.20	2.94	3.12	2.92	3.24	2.76	2.89
30.0	3.07	2.84	3.08	3.08	2.83	2.99	2.82	3.14	2.66	2.78
31.0	2.94	2.70	2.95	2.96	2.72	2.85	2.70	3.02	2.56	2.67
32.0	2.80	2.51	2.82	2.83	2.62	2.68	2.58	2.91	2.45	2.55
33.0	2.66	2.34	2.71	2.67	2.51	2.52	2.54	2.79	2.32	2.42
34.0	2.50	2.20	2.61	2.50	2.41	2.37	2.43	2.67	2.19	2.27
35.0	2.34	2.06	2.51	2.32	2.30	2.23	2.31	2.55	2.07	2.14
36.0	2.20	1.93	2.40	2.16	2.19	2.11	2.16	2.43	1.95	2.02
37.0	2.05	1.81	2.27	2.03	2.08	1.99	1.98	2.31	1.83	1.90
38.0	1.91	1.70	2.11	1.91	1.96	1.87	1.84	2.18	1.72	1.77
39.0	1.78	1.53	1.96	1.82	1.84	1.76	1.73	2.06	1.60	1.63
40.0	1.65	1.36	1.81	1.72	1.71	1.64	1.63	1.95	1.50	1.51
41.0	1.52	1.23	1.68	1.61	1.56	1.50	1.53	1.85	1.40	1.41
42.0	1.40	1.13	1.58	1.51	1.42	1.38	1.41	1.73	1.31	1.33
43.0	1.28	1.04	1.48	1.41	1.29	1.27	1.28	1.61	1.22	1.23
44.0	1.16	.95	1.38	1.30	1.18	1.19	1.17	1.47	1.13	1.10
45.0	1.05	.88	1.26	1.21	1.09	1.12	1.04	1.34	1.05	.97
46.0	.95	.79	1.13	1.12	1.00	1.06	.95	1.22	.96	.86
47.0	.87	.68	1.01	1.05	.93	.97	.87	1.13	.89	.78
48.0	.80	.57	.91	.96	.86	.88	.82	1.06	.82	.73
49.0	.73	.49	.85	.87	.79	.80	.78	.99	.74	.69
50.0	.68	.47	.79	.79	.74	.73	.73	.91	.66	.66
51.0	.64	.43	.74	.71	.68	.68	.67	.83	.59	.63
52.0	.60	.33	.69	.65	.63	.63	.60	.74	.53	.57
53.0	.55	.24	.63	.61	.59	.57	.56	.65	.47	.49
54.0	.51	.21	.57	.56	.54	.51	.52	.56	.42	.41
55.0	.47	.21	.52	.51	.50	.46	.49	.50	.39	.34
56.0	.43	0.00	.47	.47	.46	.42	.47	.45	.38	.29
57.0	.39	0.00	.44	.44	.42	.40	.44	.40	.35	.24
58.0	.35	0.00	.41	.42	.38	.37	.41	.35	.32	.22
59.0	.30	0.00	.37	.40	.34	.32	.37	.30	.25	.21
60.0	.24	0.00	.34	.37	.29	.28	.32	.25	0.00	.20
LAT.	48.0	48.1	48.1	49.4	51.0	51.1	52.3	53.2	53.4	53.7
LONG.	42.3	47.9	42.3	44.2	43.6	44.6	45.1	49.2	47.9	47.9
Cell	4	4	4	4	4	4	4	4	4	4

TABLE I.- Continued

MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
10.0	3.83	4.02	0.00	4.54	3.86	4.56	3.91	3.92	4.43	3.95
11.0	3.80	3.98	0.00	4.53	3.84	4.57	3.86	3.92	4.43	3.96
12.0	3.77	3.97	3.82	4.52	3.87	4.58	3.83	3.92	4.42	3.96
13.0	3.75	3.96	3.79	4.51	3.91	4.55	3.83	3.92	4.39	3.96
14.0	3.73	3.93	3.76	4.49	3.93	4.54	3.86	3.91	4.38	3.95
15.0	3.73	3.87	3.75	4.46	3.93	4.53	3.88	3.89	4.38	3.92
16.0	3.71	3.83	3.73	4.43	3.90	4.51	3.87	3.88	4.37	3.88
17.0	3.67	3.82	3.67	4.40	3.86	4.48	3.83	3.87	4.31	3.83
18.0	3.61	3.79	3.62	4.35	3.84	4.44	3.77	3.84	4.24	3.78
19.0	3.54	3.72	3.58	4.26	3.85	4.34	3.71	3.77	4.16	3.73
20.0	3.47	3.68	3.55	4.17	3.81	4.22	3.65	3.68	4.08	3.67
21.0	3.39	3.60	3.51	4.10	3.74	4.12	3.57	3.59	4.00	3.60
22.0	3.31	3.50	3.47	4.07	3.68	4.07	3.48	3.51	3.94	3.51
23.0	3.24	3.42	3.41	4.00	3.56	4.02	3.39	3.43	3.89	3.42
24.0	3.15	3.36	3.32	3.92	3.42	3.96	3.30	3.35	3.81	3.33
25.0	3.07	3.27	3.22	3.82	3.33	3.88	3.20	3.25	3.70	3.24
26.0	2.99	3.19	3.10	3.70	3.28	3.77	3.08	3.14	3.59	3.16
27.0	2.90	3.11	2.99	3.58	3.20	3.65	2.96	3.02	3.48	3.07
28.0	2.81	3.00	2.88	3.45	3.05	3.53	2.82	2.92	3.39	2.96
29.0	2.72	2.86	2.76	3.34	2.91	3.39	2.69	2.81	3.30	2.81
30.0	2.63	2.74	2.63	3.21	2.74	3.21	2.59	2.69	3.15	2.65
31.0	2.52	2.63	2.48	3.06	2.55	3.05	2.50	2.56	2.94	2.49
32.0	2.39	2.50	2.36	2.93	2.42	2.90	2.40	2.42	2.74	2.35
33.0	2.26	2.35	2.25	2.80	2.32	2.74	2.28	2.28	2.55	2.24
34.0	2.14	2.18	2.14	2.65	2.18	2.58	2.15	2.14	2.37	2.15
35.0	2.02	2.05	2.02	2.47	2.03	2.40	2.03	2.03	2.22	2.05
36.0	1.91	1.91	1.91	2.30	1.86	2.21	1.89	1.93	2.09	1.93
37.0	1.79	1.75	1.81	2.14	1.72	2.05	1.75	1.83	1.99	1.82
38.0	1.67	1.61	1.70	2.01	1.66	1.92	1.62	1.71	1.87	1.72
39.0	1.56	1.50	1.57	1.90	1.58	1.82	1.50	1.59	1.74	1.63
40.0	1.44	1.41	1.45	1.82	1.48	1.73	1.39	1.48	1.60	1.56
41.0	1.33	1.35	1.34	1.72	1.48	1.63	1.31	1.38	1.45	1.48
42.0	1.23	1.26	1.23	1.58	1.44	1.50	1.22	1.29	1.31	1.38
43.0	1.14	1.13	1.13	1.42	1.37	1.38	1.15	1.22	1.17	1.28
44.0	1.05	1.01	1.03	1.28	1.28	1.29	1.06	1.14	1.08	1.17
45.0	.96	.91	.93	1.20	1.18	1.21	.98	1.05	1.04	1.07
46.0	.87	.83	.85	1.12	1.07	1.10	.91	.97	.98	.97
47.0	.80	.74	.79	1.01	.93	1.02	.85	.89	.90	.88
48.0	.74	.66	.75	.89	.86	.94	.77	.82	.78	.79
49.0	.69	.59	.71	.79	.83	.85	.70	.76	.69	.70
50.0	.65	.57	.65	.73	.74	.74	.63	.70	.62	.60
51.0	.59	.56	.56	.68	.65	.65	.57	.64	.57	.52
52.0	.54	.54	.47	.63	.55	.60	.51	.57	.54	.47
53.0	.49	.49	.40	.58	.45	.58	.45	.50	.54	.45
54.0	.44	.44	.35	.55	.42	.56	.41	.44	.52	.42
55.0	.39	.41	.29	.50	.40	.55	.36	.41	.48	.38
56.0	.34	.38	.24	.46	0.00	.54	.32	.41	.43	.32
57.0	.29	.36	.21	.40	0.00	.49	.26	.41	.38	.24
58.0	.25	.34	.19	.35	0.00	.44	.22	.40	.33	.18
59.0	.21	.34	.18	.32	0.00	.40	.20	.38	0.00	.14
60.0	.18	.30	.20	.32	0.00	.37	.19	.35	0.00	.13
LAT.	53.7	53.9	56.1	56.2	56.2	56.8	56.9	57.1	58.1	58.4
LONG.	46.6	54.2	49.7	90.8	67.0	92.2	51.2	55.9	91.2	54.0
Cell	4	3	3	1	2	1	3	3	1	3

TABLE I.- Continued

MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
10.0	4.19	4.03	4.09	4.21	3.89	3.83	0.00	4.04	4.28	3.96
11.0	4.17	4.01	4.10	4.20	3.89	3.81	0.00	4.02	4.25	3.97
12.0	4.16	3.97	4.10	4.20	3.89	3.78	4.18	4.01	4.21	3.98
13.0	4.15	3.93	4.09	4.20	3.86	3.74	4.16	3.99	4.17	3.99
14.0	4.15	3.90	4.06	4.17	3.82	3.72	4.10	3.98	4.15	3.98
15.0	4.15	3.87	4.01	4.13	3.78	3.70	4.04	3.98	4.13	3.95
16.0	4.14	3.84	3.96	4.08	3.72	3.67	4.01	3.95	4.09	3.91
17.0	4.12	3.80	3.91	4.03	3.66	3.62	3.97	3.89	4.03	3.85
18.0	4.08	3.75	3.87	3.97	3.60	3.58	3.89	3.81	3.96	3.78
19.0	4.01	3.67	3.82	3.91	3.55	3.60	3.79	3.74	3.89	3.71
20.0	3.93	3.56	3.76	3.85	3.49	3.54	3.69	3.66	3.81	3.62
21.0	3.86	3.45	3.69	3.79	3.42	3.45	3.61	3.60	3.76	3.53
22.0	3.77	3.33	3.62	3.70	3.33	3.34	3.51	3.54	3.70	3.45
23.0	3.68	3.20	3.55	3.60	3.23	3.24	3.39	3.45	3.61	3.39
24.0	3.57	3.08	3.46	3.47	3.14	3.14	3.28	3.36	3.49	3.32
25.0	3.46	2.97	3.36	3.33	3.04	3.05	3.20	3.27	3.37	3.23
26.0	3.35	2.90	3.28	3.17	2.95	2.96	3.10	3.18	3.27	3.13
27.0	3.28	2.83	3.19	3.03	2.85	2.88	2.94	3.09	3.17	3.00
28.0	3.20	2.74	3.09	2.92	2.74	2.78	2.76	2.99	3.03	2.86
29.0	3.10	2.65	2.96	2.81	2.62	2.69	2.61	2.87	2.86	2.71
30.0	2.96	2.53	2.83	2.68	2.51	2.59	2.49	2.75	2.71	2.53
31.0	2.81	2.40	2.69	2.53	2.39	2.46	2.35	2.62	2.58	2.48
32.0	2.66	2.27	2.55	2.37	2.27	2.30	2.19	2.47	2.46	2.38
33.0	2.52	2.15	2.41	2.21	2.14	2.14	2.06	2.32	2.34	2.27
34.0	2.38	2.03	2.25	2.06	2.01	1.98	1.97	2.18	2.24	2.14
35.0	2.24	1.91	2.10	1.93	1.87	1.80	1.90	2.03	2.15	2.00
36.0	2.10	1.78	1.98	1.81	1.74	1.64	1.80	1.86	2.00	1.84
37.0	1.97	1.65	1.87	1.69	1.60	1.52	1.68	1.69	1.81	1.71
38.0	1.83	1.56	1.77	1.56	1.48	1.46	1.52	1.57	1.64	1.59
39.0	1.67	1.47	1.67	1.44	1.38	1.41	1.34	1.51	1.51	1.48
40.0	1.53	1.39	1.56	1.34	1.31	1.33	1.20	1.45	1.41	1.38
41.0	1.40	1.28	1.45	1.25	1.25	1.23	1.12	1.37	1.34	1.28
42.0	1.31	1.18	1.34	1.17	1.18	1.15	1.07	1.28	1.27	1.17
43.0	1.22	1.07	1.25	1.12	1.11	1.07	1.01	1.21	1.21	1.07
44.0	1.13	.97	1.17	1.08	1.06	1.00	.94	1.14	1.14	.99
45.0	1.02	.91	1.11	1.04	1.03	.93	.87	1.07	1.06	.93
46.0	.91	.86	1.06	1.00	.99	.88	.80	.98	.99	.88
47.0	.83	.82	.98	.93	.92	.80	.74	.90	.94	.83
48.0	.78	.78	.89	.86	.82	.72	.67	.81	.89	.77
49.0	.74	.74	.79	.79	.72	.63	.61	.72	.82	.71
50.0	.70	.70	.70	.74	.63	.54	.55	.65	.74	.66
51.0	.64	.65	.64	.70	.57	.46	.50	.59	.67	.61
52.0	.57	.60	.60	.64	.52	.42	.47	.54	.60	.57
53.0	.50	.55	.56	.58	.49	.40	.43	.47	.51	.51
54.0	.44	.51	.53	.53	.46	.37	.39	.39	.44	.47
55.0	.40	.47	.49	.49	.44	.32	.35	.33	.38	.42
56.0	.36	0.00	.45	.45	.41	.26	.29	.28	.33	.38
57.0	.35	0.00	.41	.43	.36	.24	.23	.26	.30	.35
58.0	.33	0.00	.37	.41	0.00	.24	.19	.25	.29	.35
59.0	.30	0.00	.33	.37	0.00	.24	.17	.23	.30	.34
60.0	.26	0.00	.30	.34	0.00	.22	.16	.22	.30	.32
LAT.	59.1	59.4	59.8	60.0	60.4	60.5	60.8	60.9	60.9	61.4
LONG.	77.6	57.8	66.0	78.8	61.3	64.8	81.3	76.2	79.8	71.6
Cell	2	3	2	2	3	2	2	2	2	2

TABLE I.- Concluded

MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr
10.0	4.07
11.0	4.06
12.0	4.02
13.0	3.99
14.0	3.95
15.0	3.91
16.0	3.81
17.0	3.71
18.0	3.64
19.0	3.60
20.0	3.58
21.0	3.54
22.0	3.48
23.0	3.42
24.0	3.36
25.0	3.28
26.0	3.15
27.0	3.04
28.0	2.91
29.0	2.80
30.0	2.69
31.0	2.59
32.0	2.45
33.0	2.30
34.0	2.14
35.0	1.98
36.0	1.84
37.0	1.73
38.0	1.64
39.0	1.55
40.0	1.44
41.0	1.34
42.0	1.25
43.0	1.17
44.0	1.08
45.0	1.00
46.0	.93
47.0	.87
48.0	.80
49.0	.73
50.0	.66
51.0	.61
52.0	.57
53.0	.54
54.0	.50
55.0	.44
56.0	.37
57.0	.32
58.0	.27
59.0	.23
60.0	.20
LAT.	61.4
LONG.	69.5
Cell	2

TABLE II

AVERAGE OF MEASURED RADIANCE PROFILES FOR
615 cm^{-1} TO 715 cm^{-1} (CO_2) FOR GEOGRAPHIC
CELL 1 AT 57° N,92° W (DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	4.51	4.56	4.43	.06
11.0	4.51	4.57	4.43	.06
12.0	4.50	4.58	4.42	.07
13.0	4.49	4.55	4.39	.07
14.0	4.47	4.54	4.38	.07
15.0	4.46	4.53	4.38	.06
16.0	4.44	4.51	4.37	.06
17.0	4.40	4.48	4.31	.07
18.0	4.34	4.44	4.24	.08
19.0	4.26	4.34	4.16	.07
20.0	4.15	4.22	4.08	.06
21.0	4.08	4.12	4.00	.05
22.0	4.03	4.07	3.94	.06
23.0	3.97	4.02	3.89	.06
24.0	3.90	3.96	3.81	.06
25.0	3.80	3.88	3.70	.08
26.0	3.69	3.77	3.59	.08
27.0	3.57	3.65	3.48	.07
28.0	3.46	3.53	3.39	.06
29.0	3.34	3.39	3.30	.04
30.0	3.19	3.21	3.15	.03
31.0	3.02	3.06	2.94	.05
32.0	2.85	2.93	2.74	.08
33.0	2.69	2.80	2.55	.11
34.0	2.53	2.65	2.37	.12
35.0	2.36	2.47	2.22	.10
36.0	2.20	2.30	2.09	.09
37.0	2.06	2.14	1.99	.06
38.0	1.93	2.01	1.87	.06
39.0	1.82	1.90	1.74	.07
40.0	1.72	1.82	1.60	.09
41.0	1.60	1.72	1.45	.11
42.0	1.46	1.58	1.31	.12
43.0	1.33	1.42	1.17	.11
44.0	1.22	1.29	1.03	.10
45.0	1.15	1.21	1.04	.08
46.0	1.07	1.12	.98	.06
47.0	.97	1.02	.90	.05
48.0	.87	.94	.78	.06
49.0	.78	.85	.69	.07
50.0	.70	.74	.62	.05
51.0	.63	.68	.57	.05
52.0	.59	.63	.54	.04
53.0	.57	.58	.54	.02
54.0	.54	.56	.52	.01
55.0	.51	.55	.48	.03
56.0	.47	.54	.43	.05
57.0	.42	.49	.38	.05
58.0	.37	.44	.33	.05
59.0	.36	.40	.32	.04
60.0	.35	.37	.32	.03

TABLE III

AVERAGE OF MEASURED RADIANCE PROFILES FOR $615\ cm^{-1}$ TO $715\ cm^{-1}$ (CO_2) FOR GEOGRAPHIC CELL 2 AT 60° N,72° W (DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	4.06	4.28	3.83	.15
11.0	4.05	4.25	3.81	.15
12.0	4.05	4.21	3.78	.14
13.0	4.04	4.20	3.74	.14
14.0	4.02	4.17	3.72	.13
15.0	3.99	4.15	3.70	.13
16.0	3.95	4.14	3.67	.13
17.0	3.90	4.12	3.62	.14
18.0	3.84	4.08	3.58	.14
19.0	3.79	4.01	3.60	.13
20.0	3.73	3.93	3.54	.12
21.0	3.66	3.86	3.45	.12
22.0	3.58	3.77	3.34	.13
23.0	3.49	3.68	3.24	.13
24.0	3.39	3.57	3.14	.12
25.0	3.29	3.46	3.05	.11
26.0	3.19	3.35	2.96	.11
27.0	3.08	3.28	2.88	.12
28.0	2.96	3.20	2.76	.13
29.0	2.83	3.10	2.61	.13
30.0	2.70	2.96	2.49	.13
31.0	2.56	2.81	2.35	.12
32.0	2.43	2.66	2.19	.12
33.0	2.29	2.52	2.06	.12
34.0	2.15	2.38	1.97	.12
35.0	2.02	2.24	1.80	.12
36.0	1.87	2.10	1.64	.12
37.0	1.74	1.97	1.52	.11
38.0	1.62	1.83	1.46	.10
39.0	1.52	1.67	1.34	.10
40.0	1.41	1.56	1.20	.10
41.0	1.33	1.48	1.12	.10
42.0	1.24	1.44	1.07	.10
43.0	1.17	1.37	1.01	.10
44.0	1.10	1.28	.94	.09
45.0	1.02	1.18	.87	.09
46.0	.95	1.07	.80	.08
47.0	.88	.98	.74	.07
48.0	.80	.89	.67	.07
49.0	.74	.83	.61	.07
50.0	.67	.74	.54	.07
51.0	.61	.70	.46	.07
52.0	.55	.64	.42	.06
53.0	.50	.58	.40	.06
54.0	.45	.53	.37	.05
55.0	.40	.49	.32	.06
56.0	.35	.45	.26	.06
57.0	.32	.43	.23	.07
58.0	.30	.41	.19	.07
59.0	.28	.37	.17	.06
60.0	.26	.34	.16	.06

TABLE IV

AVERAGE OF MEASURED RADIANCE PROFILES FOR

615 cm^{-1} TO 715 cm^{-1} (CO_2) FOR GEOGRAPHIC

CELL 3 AT 58° N,55° W (DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	3.95	4.03	3.89	.05
11.0	3.94	4.01	3.86	.05
12.0	3.91	3.97	3.82	.06
13.0	3.89	3.96	3.79	.06
14.0	3.87	3.95	3.76	.06
15.0	3.85	3.92	3.75	.06
16.0	3.82	3.88	3.72	.06
17.0	3.78	3.87	3.66	.08
18.0	3.74	3.84	3.60	.08
19.0	3.68	3.77	3.55	.08
20.0	3.61	3.68	3.49	.07
21.0	3.53	3.60	3.42	.07
22.0	3.45	3.51	3.33	.08
23.0	3.36	3.43	3.20	.09
24.0	3.27	3.36	3.08	.10
25.0	3.17	3.27	2.97	.11
26.0	3.07	3.19	2.90	.10
27.0	2.97	3.11	2.83	.10
28.0	2.87	3.00	2.74	.09
29.0	2.74	2.86	2.62	.08
30.0	2.62	2.74	2.51	.08
31.0	2.49	2.63	2.39	.08
32.0	2.37	2.50	2.27	.08
33.0	2.24	2.35	2.14	.07
34.0	2.12	2.18	2.01	.06
35.0	1.99	2.05	1.87	.07
36.0	1.87	1.93	1.74	.07
37.0	1.74	1.83	1.60	.08
38.0	1.63	1.72	1.48	.08
39.0	1.52	1.63	1.38	.08
40.0	1.43	1.56	1.31	.07
41.0	1.34	1.48	1.25	.07
42.0	1.25	1.38	1.18	.07
43.0	1.16	1.28	1.07	.07
44.0	1.06	1.17	.97	.07
45.0	.98	1.07	.91	.06
46.0	.91	.99	.83	.06
47.0	.84	.92	.74	.06
48.0	.77	.82	.66	.05
49.0	.70	.76	.59	.05
50.0	.64	.70	.57	.05
51.0	.58	.65	.52	.04
52.0	.53	.60	.47	.04
53.0	.48	.55	.40	.04
54.0	.43	.51	.35	.05
55.0	.40	.47	.29	.05
56.0	.35	.41	.24	.06
57.0	.31	.41	.21	.07
58.0	.27	.40	.18	.09
59.0	.25	.38	.14	.10
60.0	.23	.35	.13	.08

TABLE V

AVERAGE OF MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (CO_2) FOR GEOGRAPHIC CELL 4 AT 51° N,45° W (DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	3.96	4.16	3.72	.13
11.0	3.94	4.16	3.74	.12
12.0	3.94	4.14	3.77	.12
13.0	3.93	4.12	3.75	.12
14.0	3.91	4.11	3.73	.12
15.0	3.90	4.12	3.73	.12
16.0	3.88	4.14	3.71	.13
17.0	3.86	4.14	3.66	.14
18.0	3.83	4.13	3.59	.16
19.0	3.79	4.09	3.53	.17
20.0	3.73	4.02	3.47	.17
21.0	3.68	3.92	3.39	.17
22.0	3.62	3.85	3.31	.17
23.0	3.55	3.83	3.24	.18
24.0	3.48	3.77	3.15	.18
25.0	3.40	3.68	3.07	.18
26.0	3.31	3.57	2.99	.18
27.0	3.22	3.46	2.90	.18
28.0	3.12	3.35	2.81	.18
29.0	3.01	3.24	2.72	.18
30.0	2.90	3.14	2.63	.17
31.0	2.78	3.02	2.52	.17
32.0	2.65	2.91	2.39	.16
33.0	2.52	2.79	2.26	.16
34.0	2.39	2.67	2.14	.17
35.0	2.26	2.55	2.02	.17
36.0	2.13	2.43	1.91	.17
37.0	2.00	2.31	1.79	.16
38.0	1.88	2.18	1.67	.16
39.0	1.75	2.06	1.53	.16
40.0	1.63	1.95	1.36	.16
41.0	1.51	1.85	1.23	.16
42.0	1.40	1.73	1.13	.16
43.0	1.30	1.61	1.04	.15
44.0	1.19	1.47	.95	.14
45.0	1.09	1.34	.88	.13
46.0	.99	1.22	.79	.12
47.0	.91	1.13	.68	.12
48.0	.83	1.06	.57	.12
49.0	.77	.99	.49	.12
50.0	.71	.91	.47	.11
51.0	.65	.83	.43	.10
52.0	.59	.74	.33	.10
53.0	.53	.65	.24	.11
54.0	.48	.57	.21	.10
55.0	.43	.52	.21	.09
56.0	.42	.47	.29	.06
57.0	.38	.44	.24	.06
58.0	.35	.42	.22	.07
59.0	.31	.40	.21	.06
60.0	.28	.37	.18	.06

TABLE VI

AVERAGE OF MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (CO_2) FOR GEOGRAPHIC CELL 5 AT 42° N,42° W (DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	4.21	4.43	3.94	.13
11.0	4.21	4.43	3.95	.13
12.0	4.21	4.42	3.97	.14
13.0	4.20	4.40	3.98	.13
14.0	4.20	4.39	3.98	.13
15.0	4.19	4.40	3.98	.13
16.0	4.18	4.41	3.98	.13
17.0	4.17	4.42	3.99	.14
18.0	4.15	4.41	3.95	.15
19.0	4.12	4.37	3.91	.14
20.0	4.09	4.32	3.87	.13
21.0	4.06	4.25	3.84	.12
22.0	4.02	4.18	3.80	.12
23.0	3.98	4.15	3.74	.13
24.0	3.92	4.11	3.68	.13
25.0	3.86	4.05	3.61	.14
26.0	3.79	3.98	3.53	.15
27.0	3.70	3.90	3.43	.16
28.0	3.61	3.86	3.31	.17
29.0	3.51	3.79	3.19	.17
30.0	3.40	3.68	3.06	.17
31.0	3.29	3.52	2.94	.17
32.0	3.17	3.34	2.83	.16
33.0	3.03	3.15	2.70	.15
34.0	2.87	3.04	2.59	.15
35.0	2.72	2.93	2.44	.14
36.0	2.56	2.81	2.28	.14
37.0	2.39	2.67	2.10	.14
38.0	2.22	2.50	1.93	.14
39.0	2.05	2.31	1.77	.13
40.0	1.88	2.12	1.64	.13
41.0	1.73	1.94	1.52	.13
42.0	1.59	1.78	1.41	.12
43.0	1.47	1.64	1.29	.11
44.0	1.36	1.52	1.17	.11
45.0	1.25	1.41	1.07	.10
46.0	1.14	1.29	.98	.09
47.0	1.04	1.16	.89	.08
48.0	.94	1.02	.81	.07
49.0	.85	.94	.73	.06
50.0	.77	.86	.65	.06
51.0	.68	.77	.56	.06
52.0	.60	.69	.48	.06
53.0	.53	.63	.42	.07
54.0	.48	.57	.37	.07
55.0	.44	.54	.35	.06
56.0	.40	.53	.31	.07
57.0	.37	.52	.25	.08
58.0	.34	.50	.19	.09
59.0	.30	.47	.14	.10
60.0	.27	.44	.12	.09

TABLE VII

AVERAGE OF MEASURED RADIANCE PROFILES FOR $615\ cm^{-1}$ TO $715\ cm^{-1}$ (CO_2) FOR GEOGRAPHIC CELL 6 AT 33^{o} N,46^{o} W (DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	4.63	4.97	4.33	.22
11.0	4.64	4.99	4.33	.23
12.0	4.65	4.99	4.33	.23
13.0	4.66	5.00	4.34	.22
14.0	4.67	5.01	4.36	.21
15.0	4.67	5.03	4.38	.21
16.0	4.67	5.05	4.39	.22
17.0	4.67	5.06	4.40	.22
18.0	4.67	5.06	4.40	.23
19.0	4.67	5.06	4.39	.23
20.0	4.66	5.05	4.38	.23
21.0	4.63	5.02	4.37	.23
22.0	4.60	4.99	4.34	.23
23.0	4.57	4.94	4.29	.22
24.0	4.53	4.89	4.23	.23
25.0	4.49	4.85	4.17	.23
26.0	4.44	4.81	4.10	.24
27.0	4.38	4.76	4.04	.25
28.0	4.32	4.69	3.97	.25
29.0	4.24	4.60	3.88	.25
30.0	4.14	4.51	3.77	.26
31.0	4.02	4.39	3.65	.26
32.0	3.86	4.25	3.50	.28
33.0	3.69	4.09	3.34	.29
34.0	3.50	3.91	3.15	.30
35.0	3.31	3.72	2.95	.31
36.0	3.11	3.54	2.76	.31
37.0	2.91	3.34	2.57	.30
38.0	2.70	3.13	2.39	.28
39.0	2.51	2.92	2.21	.26
40.0	2.32	2.72	2.03	.25
41.0	2.16	2.54	1.86	.23
42.0	1.99	2.38	1.70	.23
43.0	1.83	2.21	1.55	.22
44.0	1.67	2.03	1.41	.22
45.0	1.53	1.85	1.28	.21
46.0	1.41	1.69	1.16	.20
47.0	1.29	1.55	1.06	.18
48.0	1.18	1.43	.96	.18
49.0	1.08	1.30	.88	.16
50.0	.98	1.17	.81	.15
51.0	.90	1.06	.73	.14
52.0	.81	.98	.64	.13
53.0	.73	.91	.56	.13
54.0	.65	.83	.50	.12
55.0	.59	.75	.44	.12
56.0	.55	.72	.40	.11
57.0	.51	.69	.38	.11
58.0	.47	.64	.35	.11
59.0	.45	.60	.31	.12
60.0	.40	.58	.25	.13

TABLE VIII

AVERAGE OF MEASURED RADIANCE PROFILES FOR $615\ cm^{-1}$ TO $715\ cm^{-1}$ (CO_2) FOR GEOGRAPHIC CELL 7 AT 25° N,46° W (DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	5.02	5.21	4.74	.12
11.0	5.04	5.25	4.80	.11
12.0	5.06	5.27	4.85	.10
13.0	5.08	5.28	4.87	.11
14.0	5.09	5.28	4.85	.11
15.0	5.11	5.29	4.86	.11
16.0	5.13	5.32	4.88	.11
17.0	5.14	5.36	4.91	.12
18.0	5.15	5.40	4.93	.14
19.0	5.15	5.43	4.95	.14
20.0	5.15	5.44	4.95	.15
21.0	5.15	5.41	4.94	.15
22.0	5.13	5.38	4.94	.14
23.0	5.11	5.36	4.94	.14
24.0	5.07	5.35	4.91	.14
25.0	5.03	5.32	4.87	.14
26.0	4.99	5.27	4.79	.14
27.0	4.93	5.20	4.71	.15
28.0	4.85	5.15	4.62	.16
29.0	4.74	5.10	4.52	.17
30.0	4.61	4.98	4.40	.18
31.0	4.45	4.83	4.25	.19
32.0	4.27	4.70	4.04	.21
33.0	4.07	4.55	3.80	.22
34.0	3.85	4.36	3.56	.24
35.0	3.63	4.17	3.35	.24
36.0	3.41	4.00	3.15	.24
37.0	3.20	3.82	2.94	.25
38.0	3.00	3.62	2.71	.25
39.0	2.79	3.40	2.49	.25
40.0	2.59	3.15	2.30	.24
41.0	2.39	2.92	2.13	.23
42.0	2.20	2.71	1.97	.22
43.0	2.03	2.51	1.83	.20
44.0	1.86	2.32	1.69	.18
45.0	1.71	2.14	1.55	.17
46.0	1.58	1.97	1.40	.15
47.0	1.45	1.81	1.27	.15
48.0	1.32	1.66	1.16	.14
49.0	1.20	1.51	1.05	.13
50.0	1.08	1.35	.96	.11
51.0	.97	1.20	.87	.09
52.0	.88	1.05	.79	.07
53.0	.79	.95	.71	.07
54.0	.71	.90	.63	.07
55.0	.61	.71	.56	.04
56.0	.53	.61	.48	.04
57.0	.46	.53	.40	.04
58.0	.39	.47	.34	.04
59.0	.32	.39	.26	.04
60.0	.26	.30	.19	.04

TABLE IX

AVERAGE OF MEASURED RADIANCE PROFILES FOR $615\ cm^{-1}$ TO $715\ cm^{-1}$ (CO_2) FOR GEOGRAPHIC CELL 8 AT 19° N,51° W (DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	4.90	5.24	3.62	.53
11.0	4.85	5.25	3.15	.70
12.0	4.92	5.27	3.61	.54
13.0	5.06	5.30	4.49	.25
14.0	5.14	5.33	5.01	.10
15.0	5.16	5.34	5.07	.08
16.0	5.18	5.37	5.12	.08
17.0	5.21	5.40	5.14	.08
18.0	5.24	5.45	5.16	.09
19.0	5.26	5.49	5.17	.10
20.0	5.28	5.52	5.19	.11
21.0	5.28	5.51	5.18	.11
22.0	5.26	5.49	5.17	.10
23.0	5.24	5.44	5.16	.09
24.0	5.22	5.39	5.12	.08
25.0	5.20	5.35	5.08	.08
26.0	5.16	5.29	5.02	.08
27.0	5.11	5.21	4.96	.09
28.0	5.03	5.17	4.89	.10
29.0	4.94	5.13	4.78	.11
30.0	4.83	5.06	4.65	.12
31.0	4.69	4.94	4.52	.13
32.0	4.51	4.76	4.35	.13
33.0	4.31	4.54	4.14	.12
34.0	4.11	4.31	3.93	.12
35.0	3.90	4.09	3.73	.13
36.0	3.66	3.88	3.49	.14
37.0	3.43	3.67	3.25	.14
38.0	3.21	3.43	3.05	.12
39.0	3.01	3.17	2.87	.10
40.0	2.82	2.94	2.69	.10
41.0	2.62	2.80	2.46	.13
42.0	2.43	2.65	2.24	.15
43.0	2.23	2.47	2.03	.15
44.0	2.05	2.22	1.83	.13
45.0	1.88	2.01	1.68	.11
46.0	1.72	1.86	1.54	.11
47.0	1.58	1.73	1.43	.09
48.0	1.44	1.60	1.32	.09
49.0	1.29	1.45	1.18	.09
50.0	1.15	1.29	1.04	.09
51.0	1.04	1.17	.94	.09
52.0	.94	1.08	.85	.08
53.0	.84	.93	.75	.07
54.0	.72	.78	.64	.05
55.0	.62	.70	.54	.05
56.0	.54	.62	.46	.05
57.0	.46	.54	.39	.05
58.0	.41	.51	.29	.07
59.0	.35	.43	.21	.07
60.0	.28	.35	.13	.07

TABLE X

AVERAGE OF MEASURED RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (CO_2) FOR GEOGRAPHIC CELL 9 AT 17° N,59° W (DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	5.02	5.19	4.84	.18
11.0	5.05	5.22	4.88	.17
12.0	5.07	5.23	4.90	.16
13.0	5.09	5.24	4.94	.15
14.0	5.12	5.24	5.00	.12
15.0	5.16	5.27	5.06	.10
16.0	5.19	5.32	5.06	.13
17.0	5.21	5.37	5.04	.17
18.0	5.23	5.41	5.04	.19
19.0	5.25	5.43	5.07	.18
20.0	5.28	5.42	5.13	.15
21.0	5.29	5.41	5.17	.12
22.0	5.30	5.40	5.20	.10
23.0	5.30	5.40	5.20	.10
24.0	5.28	5.37	5.18	.10
25.0	5.24	5.37	5.11	.13
26.0	5.19	5.35	5.02	.17
27.0	5.14	5.30	4.98	.16
28.0	5.08	5.23	4.94	.15
29.0	4.98	5.11	4.85	.13
30.0	4.83	4.95	4.71	.12
31.0	4.67	4.79	4.55	.12
32.0	4.49	4.59	4.39	.10
33.0	4.27	4.34	4.19	.07
34.0	4.02	4.09	3.96	.07
35.0	3.80	3.87	3.72	.08
36.0	3.61	3.69	3.52	.08
37.0	3.42	3.53	3.31	.11
38.0	3.21	3.33	3.08	.12
39.0	3.00	3.09	2.91	.09
40.0	2.80	2.87	2.74	.06
41.0	2.63	2.69	2.57	.06
42.0	2.45	2.53	2.37	.08
43.0	2.23	2.36	2.10	.13
44.0	2.05	2.20	1.89	.15
45.0	1.87	2.02	1.72	.15
46.0	1.69	1.79	1.59	.10
47.0	1.50	1.55	1.45	.05
48.0	1.34	1.38	1.31	.04
49.0	1.24	1.29	1.19	.05
50.0	1.14	1.20	1.09	.05
51.0	1.05	1.12	.98	.07
52.0	.94	1.05	.84	.11
53.0	.86	.96	.76	.10
54.0	.75	.85	.65	.10
55.0	.64	.74	.54	.10
56.0	.57	.64	.49	.07
57.0	.52	.60	.43	.08
58.0	.56	.56	.56	
59.0	.47	.47	.47	
60.0	.40	.40	.40	

TABLE XI

AVERAGE OF MEASURED RADIANCE PROFILES FOR $615\ cm^{-1}$ TO $715\ cm^{-1}$ (CO_2) FOR GEOGRAPHIC CELL 10 AT 14°N,67° W (DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	5.00	5.00	5.00	
11.0	5.04	5.04	5.04	
12.0	5.05	5.05	5.05	
13.0	5.09	5.09	5.09	
14.0	5.13	5.13	5.13	
15.0	5.14	5.14	5.14	
16.0	5.12	5.12	5.12	
17.0	5.11	5.11	5.11	
18.0	5.16	5.16	5.15	.00
19.0	5.20	5.26	5.14	.06
20.0	5.23	5.30	5.15	.07
21.0	5.23	5.29	5.17	.06
22.0	5.25	5.30	5.20	.05
23.0	5.29	5.33	5.25	.04
24.0	5.31	5.36	5.26	.05
25.0	5.32	5.37	5.26	.06
26.0	5.30	5.34	5.25	.05
27.0	5.25	5.26	5.23	.02
28.0	5.17	5.18	5.16	.01
29.0	5.06	5.09	5.04	.02
30.0	4.94	4.95	4.93	.01
31.0	4.79	4.81	4.77	.02
32.0	4.60	4.64	4.56	.04
33.0	4.39	4.43	4.35	.04
34.0	4.17	4.21	4.14	.04
35.0	3.97	4.01	3.93	.04
36.0	3.78	3.83	3.73	.05
37.0	3.59	3.65	3.53	.06
38.0	3.39	3.44	3.35	.05
39.0	3.18	3.21	3.15	.03
40.0	2.95	3.01	2.89	.06
41.0	2.76	2.85	2.68	.08
42.0	2.58	2.64	2.52	.06
43.0	2.36	2.41	2.31	.05
44.0	2.15	2.20	2.10	.05
45.0	1.98	2.00	1.95	.03
46.0	1.82	1.82	1.81	.00
47.0	1.65	1.67	1.62	.02
48.0	1.45	1.46	1.44	.01
49.0	1.26	1.30	1.22	.04
50.0	1.14	1.18	1.10	.04
51.0	1.05	1.07	1.03	.02
52.0	.94	.97	.90	.03
53.0	.80	.86	.73	.06
54.0	.70	.76	.64	.06
55.0	.64	.66	.61	.02
56.0	.53	.54	.51	.01
57.0	.43	.43	.42	.01
58.0	.33	.33	.33	.00
59.0	.26	.29	.23	.03
60.0	.20	.24	.16	.04

TABLE XII

AVERAGE OF ALL RADIANCE PROFILES FOR

615 cm^{-1} TO 715 cm^{-1} (CO_2) MEASURED

UNDER WINTER CONDITIONS

(DECEMBER 1966)

Tangent height, km	Average radiance, W/m^2-sr	Maximum radiance, W/m^2-sr	Minimum radiance, W/m^2-sr	Standard deviation, W/m^2-sr
10.0	4.42	5.24	3.62	.47
11.0	4.41	5.25	3.15	.50
12.0	4.40	5.27	3.61	.50
13.0	4.41	5.30	3.74	.50
14.0	4.42	5.33	3.72	.51
15.0	4.41	5.34	3.70	.53
16.0	4.41	5.37	3.67	.55
17.0	4.39	5.40	3.62	.57
18.0	4.39	5.45	3.58	.60
19.0	4.37	5.49	3.53	.63
20.0	4.34	5.52	3.47	.66
21.0	4.31	5.51	3.39	.69
22.0	4.26	5.49	3.31	.72
23.0	4.21	5.44	3.20	.74
24.0	4.16	5.39	3.08	.77
25.0	4.09	5.37	2.97	.80
26.0	4.02	5.35	2.90	.82
27.0	3.94	5.30	2.83	.84
28.0	3.85	5.23	2.74	.86
29.0	3.74	5.13	2.61	.87
30.0	3.62	5.06	2.49	.87
31.0	3.49	4.94	2.35	.86
32.0	3.34	4.76	2.19	.84
33.0	3.18	4.55	2.06	.81
34.0	3.01	4.36	1.97	.78
35.0	2.84	4.17	1.80	.74
36.0	2.67	4.00	1.64	.71
37.0	2.50	3.82	1.52	.67
38.0	2.34	3.62	1.46	.63
39.0	2.18	3.40	1.34	.59
40.0	2.02	3.15	1.20	.55
41.0	1.88	2.92	1.12	.51
42.0	1.74	2.71	1.07	.48
43.0	1.61	2.51	1.01	.43
44.0	1.48	2.32	.94	.39
45.0	1.36	2.14	.87	.36
46.0	1.25	1.97	.79	.33
47.0	1.14	1.81	.68	.30
48.0	1.04	1.66	.57	.27
49.0	.95	1.51	.49	.24
50.0	.86	1.35	.47	.22
51.0	.78	1.20	.43	.19
52.0	.70	1.08	.33	.18
53.0	.63	.96	.24	.16
54.0	.56	.90	.21	.14
55.0	.50	.75	.21	.12
56.0	.45	.72	.24	.10
57.0	.41	.69	.21	.10
58.0	.36	.64	.18	.10
59.0	.32	.60	.14	.09
60.0	.28	.58	.12	.09

TABLE XIII

ANALYTIC RADIANCE PROFILES FOR 615 cm^{-1} TO 715 cm^{-1} (DECEMBER 1966)

Tangent height, km	Antigua (17°9' N,61°47' W) radiance, W/m^2-sr	International Falls (48°34' N,93°24' W) radiance, W/m^2-sr	Trout Lake (53°50' N,89°52' W) radiance, W/m^2-sr	Fort Churchill (58°44' N,93°49' W) radiance, W/m^2-sr
0	5.32	4.69	4.53	4.35
1	5.32	4.69	4.53	4.35
2	5.33	4.69	4.53	4.35
3	5.33	4.69	4.53	4.34
4	5.34	4.69	4.53	4.34
5	5.34	4.69	4.53	4.34
6	5.35	4.69	4.53	4.34
7	5.35	4.69	4.53	4.34
8	5.36	4.69	4.53	4.33
9	5.36	4.69	4.52	4.33
10	5.37	4.69	4.52	4.33
11	5.37	4.69	4.52	4.33
12	5.37	4.69	4.52	4.33
13	5.38	4.69	4.51	4.32
14	5.38	4.68	4.50	4.31
15	5.37	4.66	4.48	4.29
16	5.38	4.64	4.46	4.26
17	5.39	4.61	4.43	4.22
18	5.41	4.56	4.39	4.15
19	5.44	4.51	4.33	4.07
20	5.45	4.46	4.26	3.99
21	5.43	4.39	4.19	3.91
22	5.40	4.31	4.10	3.81
23	5.36	4.21	3.98	3.70
24	5.29	4.10	3.87	3.55
25	5.22	3.97	3.75	3.41
26	5.16	3.83	3.61	3.26
27	5.09	3.68	3.46	3.11
28	5.00	3.51	3.30	2.95
29	4.88	3.34	3.13	2.80
30	4.71	3.17	2.95	2.64
31	4.50	3.00	2.77	2.48
32	4.29	2.85	2.60	2.31
33	4.04	2.73	2.44	2.15
34	3.81	2.62	2.27	2.00
35	3.61	2.49	2.11	1.86
36	3.40	2.35	1.96	1.71
37	3.21	2.19	1.84	1.57
38	3.02	2.03	1.70	1.44
39	2.84	1.87	1.56	1.32
40	2.64	1.73	1.45	1.21
41	2.44	1.61	1.35	1.11
42	2.24	1.48	1.24	1.02
43	2.06	1.35	1.13	.94
44	1.88	1.23	1.03	.86
45	1.72	1.11	.94	.78
46	1.55	1.00	.86	.71
47	1.39	.89	.78	.66
48	1.24	.79	.70	.60
49	1.11	.69	.62	.55
50	.99	.61	.55	.49
51	.88	.54	.49	.44
52	.76	.48	.43	.39
53	.66	.42	.38	.35
54	.57	.38	.34	.31
55	.49	.34	.30	.28
56	.42	.30	.27	.25
57	.36	.27	.23	.23
58	.30	.23	.20	.20
59	.25	.20	.17	.18
60	.21	.17	.15	.15

TABLE XIV

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (December 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	11.84	11.04	10.81	10.61	10.41	10.85	10.62	10.59	10.28	10.81
1.0	11.80	11.02	10.48	10.57	10.31	10.80	10.48	10.41	10.28	10.71
2.0	11.66	11.00	10.07	10.46	10.28	10.67	10.23	10.28	10.22	10.55
3.0	11.44	10.97	9.65	10.22	10.14	10.47	9.84	10.11	10.05	10.31
4.0	11.20	10.75	9.26	9.85	9.87	10.19	9.38	9.96	9.77	10.04
5.0	10.81	10.37	8.78	9.36	9.59	9.76	8.84	9.80	9.32	9.73
6.0	10.23	9.87	8.08	8.78	9.18	9.23	8.23	9.42	8.71	9.38
7.0	9.44	9.12	7.14	7.87	8.57	8.59	7.53	8.89	7.90	8.87
8.0	8.45	7.97	6.13	6.78	7.64	7.66	6.74	8.15	7.03	8.22
9.0	7.28	6.44	5.15	5.53	6.49	6.51	5.83	7.10	6.18	7.45
10.0	6.02	4.89	4.24	4.36	5.19	5.46	4.79	5.86	5.36	6.59
11.0	4.75	3.65	3.48	3.46	4.04	4.43	3.77	4.53	4.54	5.67
12.0	3.69	2.74	2.95	2.84	3.17	3.53	2.93	3.52	3.76	4.81
13.0	2.91	2.23	2.52	2.35	2.41	2.78	2.30	2.76	3.06	4.05
14.0	2.35	1.91	2.15	2.03	1.91	2.32	1.93	2.34	2.52	3.35
15.0	1.99	1.74	1.82	1.81	1.78	2.08	1.70	2.07	2.14	2.80
16.0	1.75	1.69	1.53	1.64	1.68	1.85	1.55	1.88	1.82	2.32
17.0	1.45	1.42	1.28	1.61	1.49	1.76	1.45	1.72	1.58	1.95
18.0	1.17	1.07	1.05	1.52	1.34	1.64	1.32	1.57	1.40	1.66
19.0	1.16	.82	.86	1.33	1.23	1.46	1.20	1.39	1.24	1.44
20.0	1.30	.75	.68	1.15	1.07	1.22	1.05	1.24	1.03	1.28
21.0	1.22	.72	.52	1.05	.85	.97	.91	1.04	.89	1.22
22.0	1.04	.65	.46	1.02	.68	.75	.74	.92	.75	1.19
23.0	.98	.59	.43	.90	.58	.61	.58	.92	.59	1.22
24.0	.86	.46	.43	.75	.54	.54	.44	.89	.40	1.27
25.0	.67	.25	.45	.62	.56	.48	.36	.94	.30	1.21
26.0	.51	-.01	.47	.50	.58	.48	.29	.86	.28	1.07
27.0	.30	-.19	.44	.39	.57	.52	.20	.71	.28	.93
28.0	.12	-.14	.36	.29	.51	.52	.16	.67	.24	.79
29.0	.01	-.11	.30	.26	.39	.40	.14	.65	.26	.72
30.0	.01	-.12	.23	.25	.25	.25	.09	.48	.27	.69
31.0	.18	-.11	.13	.28	.13	.16	.10	.33	.23	.62
32.0	.35	-.15	.02	.23	.01	.03	.19	.27	.14	.48
33.0	.32	-.23	-.06	.16	-.00	.05	.22	.23	.06	.33
34.0	.24	-.37	-.13	.09	.05	.16	.20	.20	-.05	.23
35.0	0.00	-.51	-.10	-.00	.08	.18	.09		-.08	.20
LAT.	16.7	16.9	19.1	19.1	19.5	19.6	20.6	20.9	22.6	23.1
LONG.	53.8	57.7	50.0	52.3	52.6	49.8	48.9	53.3	47.3	47.4
Detector	1	1	1	1	1	1	1	1	1	1

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.74	10.26	10.54	11.05	11.32	10.74	10.34	9.79	10.52	8.59
1.0	10.65	10.19	10.38	10.88	11.03	10.51	10.47	9.90	10.41	8.61
2.0	10.47	10.15	10.22	10.60	10.69	10.27	10.46	9.90	10.29	8.63
3.0	10.21	10.02	10.05	10.24	10.38	10.02	10.35	9.68	10.10	8.65
4.0	9.83	9.65	9.78	9.83	10.03	9.73	10.19	9.28	9.83	8.61
5.0	9.31	9.23	9.41	9.38	9.64	9.35	9.88	8.72	9.45	8.44
6.0	8.70	8.81	8.93	8.83	9.14	8.86	9.41	8.04	8.97	8.07
7.0	8.11	8.14	8.40	8.15	8.54	8.22	8.65	7.31	8.40	7.53
8.0	7.43	7.29	7.68	7.39	7.85	7.37	7.60	6.54	7.72	6.80
9.0	6.66	6.34	6.82	6.58	7.07	6.36	6.47	5.76	6.92	5.93
10.0	5.80	5.18	5.88	5.68	6.25	5.32	5.38	4.96	6.00	5.05
11.0	5.01	4.07	4.84	4.73	5.42	4.33	4.35	4.15	4.98	4.20
12.0	4.29	3.18	3.84	3.90	4.63	3.45	3.55	3.45	3.97	3.46
13.0	3.63	2.55	3.00	3.24	3.95	2.75	3.05	2.85	3.17	2.83
14.0	3.05	2.19	2.40	2.77	3.45	2.28	2.71	2.38	2.59	2.39
15.0	2.62	1.95	2.04	2.42	3.09	2.01	2.50	2.01	2.21	2.02
16.0	2.30	1.64	1.86	2.17	2.85	1.87	2.38	1.72	1.94	1.74
17.0	2.04	1.34	1.74	2.00	2.63	1.78	2.14	1.46	1.75	1.50
18.0	1.83	1.14	1.59	1.88	2.40	1.66	1.85	1.23	1.62	1.28
19.0	1.68	.96	1.40	1.78	2.19	1.54	1.58	1.03	1.49	1.06
20.0	1.53	.84	1.19	1.60	2.00	1.43	1.34	.86	1.40	.90
21.0	1.38	.80	1.02	1.37	1.78	1.33	1.18	.70	1.27	.74
22.0	1.25	.77	.87	1.12	1.57	1.23	1.08	.56	1.14	.62
23.0	1.15	.66	.72	.97	1.41	1.11	1.02	.46	1.01	.54
24.0	1.02	.51	.56	.92	1.32	.97	.97	.42	.87	.48
25.0	.89	.37	.43	.92	1.26	.84	.96	.39	.72	.39
26.0	.77	.23	.42	.95	1.23	.69	.87	.40	.62	.29
27.0	.66	.05	.44	.93	1.20	.54	.65	.42	.51	.21
28.0	.53	-.08	.44	.87	1.17	.40	.48	.42	.42	.16
29.0	.45	-.08	.40	.75	1.15	.31	.32	.43	.34	.11
30.0	.42	-.01	.31	.63	1.13	.25	.22	.45	.31	.06
31.0	.39		.21	.54	1.05	.20	.17	.43	.26	-.04
32.0	.41		.14	.43	.89	.14	.20	.44	.19	-.12
33.0	.42		.05	.33	.68	.12	.22	.42	.12	-.12
34.0	.44		.00	.27	.50	.15	.19	.35		-.07
35.0	.45			.25	.38	.24	.21	.26		-.04
LAT.	24.3	24.7	25.2	27.5	27.6	27.7	28.7	29.7	30.1	30.8
LONG.	45.5	51.2	45.5	44.5	44.0	43.2	45.3	42.3	43.6	41.6
Detector	1	1	1	1	1	1	1	1	1	1

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	8.01	8.92	9.12	10.88	10.40	9.99	11.01	10.47	10.07	10.38
1.0	8.04	9.06	8.75	10.72	10.23	9.72	10.78	10.24	9.80	10.28
2.0	8.02	9.15	8.30	10.50	10.02	9.47	10.51	9.98	9.55	10.12
3.0	7.99	9.19	7.74	10.26	9.77	9.23	10.18	9.71	9.31	9.98
4.0	7.94	9.08	7.32	9.97	9.53	8.97	9.82	9.40	9.06	9.77
5.0	7.89	8.88	7.07	9.61	9.24	8.70	9.40	9.04	8.78	9.49
6.0	7.76	8.54	6.86	9.15	8.93	8.32	8.92	8.61	8.47	9.11
7.0	7.47	8.08	6.54	8.56	8.52	7.94	8.35	8.08	8.10	8.69
8.0	6.96	7.45	6.15	7.89	8.00	7.46	7.73	7.47	7.57	8.14
9.0	6.23	6.71	5.54	7.14	7.33	6.87	7.04	6.78	6.85	7.32
10.0	5.38	5.92	4.71	6.31	6.56	6.16	6.22	6.01	5.95	6.22
11.0	4.54	5.09	3.87	5.45	5.74	5.31	5.32	5.16	5.00	4.96
12.0	3.77	4.24	3.16	4.56	4.85	4.51	4.40	4.25	4.09	3.72
13.0	3.13	3.46	2.68	3.76	3.96	3.71	3.56	3.48	3.25	2.85
14.0	2.65	2.87	2.39	3.14	3.14	2.96	2.90	2.86	2.61	2.25
15.0	2.30	2.45	2.15	2.67	2.45	2.36	2.41	2.40	2.16	1.82
16.0	2.06	2.15	1.94	2.32	1.94	1.90	2.11	2.08	1.88	1.49
17.0	1.83	1.97	1.72	2.01	1.56	1.61	1.92	1.86	1.66	1.27
18.0	1.64	1.82	1.48	1.78	1.30	1.39	1.78	1.71	1.44	1.19
19.0	1.52	1.67	1.31	1.58	1.12	1.26	1.63	1.60	1.21	1.16
20.0	1.50	1.51	1.13	1.41	.96	1.15	1.45	1.49	.98	1.17
21.0	1.47	1.34	.96	1.30	.78	1.01	1.24	1.38	.79	1.10
22.0	1.41	1.17	.83	1.23	.60	.86	1.04	1.28	.66	.93
23.0	1.27	1.04	.73	1.15	.47	.72	.90	1.19	.55	.70
24.0	1.12	.96	.64	1.05	.40	.59	.83	1.12	.47	.50
25.0	.99	.90	.62	.93	.38	.47	.78	1.04	.42	.37
26.0	.90	.82	.66	.84	.37	.40	.73	.96	.42	.25
27.0	.83	.72	.68	.77	.35	.37	.66	.86	.43	.17
28.0	.74	.61	.61	.69	.33	.35	.62	.74	.38	.14
29.0	.62	.51	.47	.62	.32	.35	.60	.62	.31	.14
30.0	.48	.45	.33	.59	.29	.33	.58	.51	.24	.10
31.0	.32	.41	.25	.59	.25	.28	.56	.43	.18	.12
32.0	.18	.37	.19	.60	.19	.22	.53	.38	.14	.20
33.0	.09	.33	.10	.55	.13	.17	.50	.34	.07	.23
34.0	.06	.32	.00	.44	.08	.12	.48	.29	-.02	.25
35.0	.09	.36		.30	.04	.01	.46	.28	-.12	.28
LAT.	31.6	32.5	34.5	35.2	35.5	37.7	37.9	38.9	39.1	39.7
LONG.	41.8	41.4	44.2	40.8	40.4	40.7	40.6	39.7	39.7	42.9
Detector	1	1	1	1	1	1	1	1	1	1

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.24	10.27	9.98	10.14	10.67	10.42	10.68	11.05		11.45
1.0	9.97	10.02	9.59	9.87	10.42	10.09	10.54	10.93		11.19
2.0	9.71	9.68	9.17	9.54	10.16	9.69	10.37	10.70		10.84
3.0	9.41	9.24	8.74	9.14	9.87	9.26	10.08	10.26		10.43
4.0	9.03	8.76	8.30	8.66	9.53	8.79	9.65	9.81		9.97
5.0	8.55	8.22	7.82	8.12	9.09	8.27	9.01	9.27		9.44
6.0	8.06	7.67	7.38	7.50	8.56	7.70	8.14	8.49		8.81
7.0	7.50	7.10	6.91	6.82	7.96	7.09	7.16	7.50		8.07
8.0	6.95	6.47	6.41	6.08	7.25	6.44	6.15	6.42		7.34
9.0	6.35	5.79	5.88	5.35	6.43	5.81	5.20	5.44		6.49
10.0	5.69	5.07	5.32	4.68	5.50	5.14	4.39	4.60	4.66	5.57
11.0	4.97	4.31	4.72	3.97	4.60	4.50	3.68	3.83	3.85	4.62
12.0	4.26	3.59	4.14	3.26	3.81	3.89	3.10	3.28	3.26	3.73
13.0	3.58	2.97	3.56	2.63	3.10	3.32	2.75	2.85	2.70	2.97
14.0	2.99	2.50	3.01	2.16	2.50	2.81	2.47	2.50	2.28	2.36
15.0	2.54	2.15	2.52	1.84	2.04	2.39	2.17	2.17	2.01	1.94
16.0	2.20	1.95	2.13	1.62	1.70	2.03	1.88	1.85	1.77	1.68
17.0	1.90	1.82	1.84	1.41	1.47	1.75	1.58	1.54	1.54	1.49
18.0	1.64	1.70	1.62	1.21	1.30	1.49	1.30	1.33	1.39	1.36
19.0	1.43	1.58	1.45	1.07	1.17	1.30	1.08	1.19	1.27	1.25
20.0	1.22	1.41	1.30	.96	1.05	1.16	.95	1.12	1.13	1.14
21.0	1.03	1.23	1.18	.88	.93	1.03	.85	.98	.93	1.03
22.0	.87	1.04	1.10	.84	.81	.92	.75	.76	.73	.94
23.0	.75	.88	1.07	.83	.73	.79	.67	.54	.61	.85
24.0	.68	.78	1.08	.78	.64	.67	.63	.39	.68	.78
25.0	.62	.71	1.12	.70	.55	.56	.55	.29	.62	.69
26.0	.55	.67	1.11	.59	.44	.45	.42	.24	.53	.58
27.0	.46	.61	1.07	.53	.36	.36	.28	.26	.52	.47
28.0	.39	.56	.99	.50	.31	.27	.14	.35	.42	.39
29.0	.31	.54	.92	.46	.25	.22	.01	.41	.30	.32
30.0	.26	.55	.86	.38	.20	.19	-.04	.41	.26	.28
31.0	.21	.59	.82	.31	.16	.21	-.05	.36	.28	.24
32.0	.18	.59	.80	.25	.13	.25	-.08	.28	.27	.23
33.0	.19	.56	.80	.21	.12	.27	-.07	.19	.26	.23
34.0	.23	.51	.80	.15	.12	.26		.14	.21	.25
35.0	.23	.44	.81	.13	.12	.23		.11	.14	.29
LAT.	40.6	41.7	41.9	42.5	43.2	45.0	45.2	45.3	45.6	45.8
LONG.	40.8	40.3	39.8	39.6	41.5	40.4	45.6	43.3	103.7	40.7
Detector	1	1	1	1	1	1	1	1	1	1

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr								
0.0	10.97	10.83	10.83	10.88	10.42	10.22	10.29	10.43	9.68	10.42
1.0	10.73	10.62	10.58	10.67	10.30	10.07	9.92	10.18	9.57	10.14
2.0	10.47	10.37	10.29	10.41	10.10	9.90	9.61	9.86	9.38	9.78
3.0	10.20	10.08	9.96	10.11	9.80	9.65	9.38	9.48	9.12	9.31
4.0	9.86	9.75	9.59	9.74	9.37	9.30	9.04	9.03	8.79	8.71
5.0	9.42	9.35	9.13	9.29	8.80	8.83	8.64	8.50	8.34	7.86
6.0	8.84	8.88	8.61	8.73	8.14	8.22	8.21	7.92	7.77	6.92
7.0	8.17	8.33	7.95	8.04	7.37	7.54	7.66	7.30	7.07	5.99
8.0	7.42	7.69	7.24	7.19	6.53	6.79	6.94	6.56	6.29	5.24
9.0	6.59	6.98	6.45	6.25	5.64	6.00	6.07	5.79	5.48	4.64
10.0	5.72	6.22	5.59	5.31	4.82	5.21	5.06	5.02	4.68	4.16
11.0	4.84	5.44	4.71	4.46	4.07	4.48	4.13	4.24	3.98	3.79
12.0	4.05	4.63	3.89	3.71	3.35	3.87	3.45	3.51	3.41	3.46
13.0	3.36	3.82	3.19	3.10	2.76	3.38	2.96	2.92	2.93	3.12
14.0	2.79	3.07	2.67	2.58	2.28	2.95	2.58	2.45	2.52	2.80
15.0	2.33	2.42	2.25	2.20	1.93	2.57	2.21	2.10	2.19	2.45
16.0	1.95	1.95	1.93	1.90	1.68	2.21	1.83	1.83	1.92	2.14
17.0	1.65	1.60	1.64	1.64	1.48	1.86	1.50	1.63	1.69	1.90
18.0	1.39	1.32	1.38	1.44	1.32	1.56	1.31	1.47	1.43	1.66
19.0	1.15	1.10	1.15	1.27	1.17	1.26	1.19	1.33	1.19	1.43
20.0	.92	.94	.93	1.17	1.00	1.02	1.01	1.21	.98	1.21
21.0	.68	.82	.70	1.11	.86	.82	.85	1.09	.90	1.09
22.0	.49	.75	.52	1.04	.73	.66	.79	.98	.86	1.06
23.0	.39	.68	.35	.90	.63	.56	.72	.84	.83	1.05
24.0	.34	.60	.20	.77	.54	.49	.57	.71	.78	.99
25.0	.35	.53	.08	.64	.45	.45	.43	.60	.71	.89
26.0	.35	.46	-.00	.55	.37	.43	.30	.49	.57	.82
27.0	.34	.41	-.05	.51	.28	.43	.21	.38	.41	.80
28.0	.29	.37	-.08	.44	.24	.42	.20	.25	.28	.78
29.0	.20	.31	-.10	.34	.22	.40	.23	.15	.19	.72
30.0	.11	.24	-.10	.23	.20	.39	.20	.06	.14	.64
31.0	.04	.19	-.09	.13	.17	.36	.12	-.01	.12	.56
32.0	-.02	.13	-.07	.07	.14	.34	.02	-.05	.12	.46
33.0	-.08	.08	-.09	.09	.14	.33	-.07	-.06	.17	.36
34.0	-.14	.04	-.07	.17	.15	.31	-.17	-.06	.23	.28
35.0	-.21	-.02	-.04	.26	.17	.29	-.14	-.05	.29	.22
LAT.	46.5	47.9	48.1	49.5	50.5	51.1	51.2	51.2	53.0	53.1
LONG.	42.0	40.9	41.7	42.1	43.8	43.9	49.1	42.9	44.6	99.3
Detector	1	1	1	1	1	1	1	1	1	1

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	9.64	9.39	10.80	8.63	10.54			9.77		10.06
1.0	9.58	9.10	10.65	8.46	10.32			9.41		9.92
2.0	9.53	8.76	10.47	8.25	10.00			8.97		9.70
3.0	9.45	8.35	10.29	8.02	9.63			8.54		9.39
4.0	9.29	7.90	9.99	7.75	9.15			8.01		9.01
5.0	9.05	7.43	9.45	7.48	8.62			7.36		8.55
6.0	8.74	6.95	8.67	7.14	7.99			6.61		8.01
7.0	8.31	6.42	7.62	6.74	7.26			5.89		7.37
8.0	7.83	5.86	6.36	6.28	6.46			5.26		6.60
9.0	7.29	5.28	5.13	5.75	5.65			4.67		5.81
10.0	6.72	4.68	4.13	5.10	4.91			4.17		5.06
11.0	6.04	4.08	3.38	4.44	4.26			3.70		4.35
12.0	5.29	3.50	2.93	3.75	3.70			3.25		3.73
13.0	4.57	2.98	2.67	3.09	3.22			2.87		3.20
14.0	3.87	2.58	2.51	2.48	2.76			2.55		2.79
15.0	3.25	2.25	2.35	1.93	2.35	2.26	1.93	2.28	1.80	2.43
16.0	2.74	1.98	2.15	1.49	1.99	2.05	1.55	2.07	1.55	2.13
17.0	2.34	1.71	1.82	1.14	1.68	1.88	1.19	1.87	1.57	1.87
18.0	2.04	1.45	1.47	.91	1.43	1.72	.82	1.68	1.50	1.63
19.0	1.82	1.22	1.19	.75	1.23	1.51	.58	1.48	1.26	1.39
20.0	1.63	1.00	1.04	.63	1.04	1.32	.49	1.34	1.08	1.20
21.0	1.45	.84	.97	.57	.86	1.18	.38	1.21	.87	.99
22.0	1.26	.75	.88	.52	.71	1.08	.37	1.12	.56	.80
23.0	1.07	.66	.77	.46	.61	.92	.44	1.05	.38	.71
24.0	.91	.60	.67	.41	.58	.76	.54	.92	.29	.67
25.0	.78	.48	.63	.35	.59	.65	.52	.78	.21	.64
26.0	.69	.38	.60	.29	.62	.52	.35	.63	.17	.57
27.0	.64	.27	.56	.21	.60	.37	.28	.50	.24	.48
28.0	.56	.20	.52	.12	.54	.23	.23	.34	.25	.38
29.0	.46	.16	.47	.06	.44	.12	.15	.25	.13	.31
30.0	.33	.17	.43	.02	.32	.07	.10	.23	.02	.28
31.0	.22	.20	.37	.00	.24	.06	.09	.21	-.09	.28
32.0	.15	.23	.30	-.01	.24	.06	.07	.17	-.14	.31
33.0	.10	.27	.24	-.02	.26	.12	.14	.16	-.16	.36
34.0	.04	.29	.22	-.05	.25	.13	.20	.21	-.13	.41
35.0	-.03	.29	.23	-.08	.18	.10	.20	.29	-.12	.42
LAT.	53.5	54.0	54.1	54.4	54.5	55.4	56.7	56.7	57.1	57.2
LONG.	47.8	47.1	56.9	46.0	98.1	91.8	58.8	94.3	72.5	53.6
Detector	1	1	1	1	1	1	1	1	1	1

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	9.95	10.44	9.81	8.98	8.16		8.22	8.90	9.35	7.95
1.0	9.66	10.25	9.62	8.71	8.05		7.96	8.76	9.09	7.74
2.0	9.30	9.95	9.42	8.43	7.92		7.71	8.51	8.75	7.56
3.0	8.88	9.61	9.15	8.05	7.84		7.44	8.13	8.36	7.34
4.0	8.46	9.24	8.82	7.62	7.81		7.15	7.69	7.95	7.08
5.0	8.04	8.87	8.42	7.09	7.80		6.83	7.19	7.55	6.78
6.0	7.57	8.51	7.95	6.56	7.68		6.45	6.64	7.15	6.47
7.0	7.03	8.16	7.43	5.97	7.41		5.97	6.00	6.68	6.13
8.0	6.43	7.79	6.87	5.30	7.00		5.42	5.29	6.03	5.71
9.0	5.79	7.30	6.27	4.65	6.42		4.89	4.56	5.22	5.22
10.0	5.13	6.65	5.63	4.12	5.66	3.50	4.33	3.88	4.40	4.68
11.0	4.48	5.96	4.94	3.65	4.78	3.06	3.78	3.25	3.73	4.13
12.0	3.87	5.26	4.23	3.25	3.93	2.69	3.26	2.69	3.23	3.61
13.0	3.29	4.55	3.59	2.93	3.24	2.39	2.80	2.20	2.84	3.11
14.0	2.78	3.89	3.06	2.65	2.73	2.07	2.45	1.88	2.52	2.65
15.0	2.34	3.30	2.62	2.32	2.34	1.71	2.13	1.65	2.23	2.29
16.0	2.01	2.86	2.25	2.01	2.02	1.44	1.83	1.49	2.01	1.95
17.0	1.77	2.51	1.97	1.68	1.73	1.21	1.55	1.33	1.78	1.65
18.0	1.57	2.27	1.72	1.33	1.46	1.04	1.30	1.17	1.55	1.41
19.0	1.39	2.08	1.50	.99	1.26	1.05	1.09	1.01	1.33	1.21
20.0	1.24	1.89	1.33	.77	1.06	1.10	.92	.86	1.15	1.03
21.0	1.09	1.70	1.18	.60	.87	1.04	.81	.73	1.04	.88
22.0	.97	1.51	1.07	.47	.66	.90	.75	.61	.97	.78
23.0	.86	1.32	.96	.43	.49	.83	.73	.49	.89	.75
24.0	.78	1.16	.85	.42	.34	.78	.72	.37	.82	.73
25.0	.70	1.05	.73	.41	.23	.67	.71	.30	.76	.70
26.0	.58	.92	.64	.43	.10	.52	.67	.26	.68	.66
27.0	.49	.81	.56	.46	.01	.40	.60	.21	.63	.60
28.0	.39	.73	.49	.49	-.00	.39	.52	.15	.56	.55
29.0	.31	.67	.45	.41	.07	.46	.47	.07	.52	.51
30.0	.27	.62	.43	.29	.17	.46	.45	-.01	.45	.44
31.0	.26	.60	.40	.19	.21	.41	.43	-.09	.35	.31
32.0	.28	.61	.36	.14	.19	.43	.39	-.14	.20	.21
33.0	.31	.67	.33	.11	.20	.39	.29	-.16	.03	.11
34.0	.36	.69	.30	.08	.25	.31	.19	-.15	-.09	.05
35.0	.39	.68	.26	.03	.28	.25	.11	-.12	-.13	-.01
LAT.	57.3	58.4	58.9	59.0	59.1	59.1	59.6	59.6	59.9	60.5
LONG.	50.7	59.5	54.0	84.4	77.3	87.1	88.2	57.3	62.1	84.1
Detector	1	1	1	1	1	1	1	1	1	1

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr				
0.0	8.45	8.88	8.45	7.86	7.99
1.0	8.49	8.73	8.35	7.71	7.86
2.0	8.45	8.54	8.26	7.53	7.69
3.0	8.25	8.26	8.10	7.32	7.48
4.0	7.92	7.90	7.85	7.09	7.23
5.0	7.57	7.47	7.50	6.82	6.91
6.0	7.05	6.94	7.01	6.52	6.51
7.0	6.44	6.34	6.38	6.20	6.02
8.0	5.77	5.73	5.63	5.81	5.48
9.0	5.01	5.06	4.87	5.35	4.90
10.0	4.11	4.41	4.16	4.82	4.31
11.0	3.32	3.81	3.55	4.26	3.76
12.0	2.89	3.27	3.07	3.73	3.28
13.0	2.63	2.80	2.71	3.25	2.87
14.0	2.44	2.39	2.45	2.81	2.53
15.0	2.22	2.06	2.22	2.42	2.23
16.0	1.95	1.79	1.99	2.06	1.99
17.0	1.73	1.54	1.77	1.74	1.77
18.0	1.56	1.33	1.58	1.48	1.57
19.0	1.39	1.13	1.43	1.26	1.37
20.0	1.25	.95	1.29	1.09	1.15
21.0	1.14	.80	1.13	.92	.95
22.0	1.01	.70	.95	.77	.80
23.0	.85	.64	.77	.64	.68
24.0	.78	.59	.60	.57	.58
25.0	.78	.54	.46	.55	.51
26.0	.79	.48	.35	.58	.43
27.0	.76	.44	.26	.60	.34
28.0	.69	.40	.21	.58	.23
29.0	.65	.34	.20	.56	.12
30.0	.59	.29	.20	.54	.03
31.0	.47	.25	.19	.51	-.04
32.0	.31	.21	.16	.47	-.05
33.0	.20	.16	.12	.43	-.05
34.0	.14	.12	.08	.38	-.06
35.0	.20	.06	.05	.35	-.08
LAT.	61.0	61.0	61.1	61.6	61.8
LONG.	73.6	62.2	66.1	76.6	72.6
Detector	1	1	1	1	1

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	11.26	11.47	10.55	10.85	10.24	11.19	11.04	10.20	10.96	10.53
1.0	11.18	11.41	10.64	10.61	10.35	11.07	10.83	10.16	10.76	10.43
2.0	11.13	11.36	10.64	10.30	10.40	11.00	10.53	10.18	10.54	10.28
3.0	10.98	11.06	10.33	9.88	10.26	10.79	10.12	10.13	10.19	10.13
4.0	10.78	10.74	9.90	9.39	9.89	10.41	9.62	9.92	9.85	9.89
5.0	10.46	10.25	9.37	8.73	9.25	9.87	9.01	9.77	9.44	9.62
6.0	10.00	9.65	8.78	7.91	8.41	9.11	8.19	9.42	8.94	9.27
7.0	9.38	8.90	8.06	6.86	7.49	8.21	7.32	8.72	8.25	8.83
8.0	8.55	7.86	7.13	5.81	6.48	7.24	6.41	7.84	7.41	8.26
9.0	7.43	6.72	6.04	4.76	5.42	6.21	5.48	6.63	6.58	7.46
10.0	6.12	5.60	4.96	3.80	4.34	5.10	4.51	5.25	5.72	6.50
11.0	4.94	4.42	3.96	3.04	3.32	4.20	3.71	4.07	4.76	5.47
12.0	3.91	3.29	3.08	2.56	2.69	3.42	3.08	3.15	3.76	4.42
13.0	3.15	2.58	2.43	2.28	2.41	2.81	2.72	2.54	3.06	3.55
14.0	2.61	2.05	1.91	2.10	2.10	2.45	2.42	2.22	2.55	2.87
15.0	2.27	1.57	1.56	1.93	1.67	2.26	2.25	2.05	2.20	2.41
16.0	2.08	1.19	1.35	1.69	1.28	2.13	2.03	1.80	1.95	2.08
17.0	1.93	1.07	1.18	1.44	1.05	1.99	1.73	1.53	1.75	1.81
18.0	1.69	1.22	1.08	1.23	.88	1.77	1.38	1.40	1.59	1.59
19.0	1.47	1.41	1.01	1.16	.80	1.55	1.15	1.25	1.53	1.41
20.0	1.33	1.41	1.00	1.10	.66	1.31	1.03	.94	1.46	1.25
21.0	1.12	1.11	.97	.99	.47	1.04	.95	.80	1.34	1.13
22.0	.74	.79	.89	.83	.42	.91	.88	.80	1.16	.92
23.0	.41	.58	.83	.75	.46	.91	.79	.73	.97	.66
24.0	.28	.38	.73	.68	.52	.82	.66	.42	.84	.51
25.0	.29	.26	.67	.55	.58	.68	.50	.24	.78	.48
26.0	.39	.33	.56	.36	.53	.65	.45	.32	.68	.49
27.0	.50	.33	.40	.17	.28	.57	.45	.28	.61	.49
28.0	.37	.18	.36	.05	.06	.32	.49	.17	.56	.43
29.0	.29	.14	.38	-.02	-.04	.15	.52	.18	.56	.40
30.0	.27	.11	.37	.04	-.12	.05	.55	.25	.48	.35
31.0	.16	.06	.36	.13	-.13	.12	.50	.35	.33	.33
32.0	.04	.00	.30	.20	-.05	.26	.41	.25	.28	.27
33.0	-.11	-.00	.29	.31	.06	.28	.34	.17	.28	.14
34.0	-.12	.12	.24	.39	-.01	.21	.28	.18	.28	.07
35.0	-.20	.13	.16	.38	-.07	.21	.22	.17	.28	.12
LAT.	17.0	17.2	19.4	19.5	19.7	20.3	20.9	21.1	23.2	23.5
LONG.	52.9	56.6	51.2	49.2	51.7	48.6	48.2	52.5	46.4	46.8
Detector	2	2	2	2	2	2	2	2	2	2

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.48	11.12	11.03	10.99	10.97	11.24	11.09	9.48	9.58	9.01
1.0	10.29	10.83	10.76	10.93	10.79	11.00	10.87	9.28	9.67	9.24
2.0	10.07	10.61	10.38	10.77	10.52	10.71	10.67	9.06	9.62	9.41
3.0	9.78	10.41	9.98	10.51	10.20	10.34	10.53	8.88	9.42	9.44
4.0	9.44	10.13	9.67	10.11	9.78	9.91	10.35	8.66	9.16	9.36
5.0	9.07	9.78	9.30	9.57	9.24	9.41	10.03	8.44	8.83	9.03
6.0	8.63	9.31	8.75	8.90	8.61	8.76	9.55	8.16	8.47	8.57
7.0	8.12	8.68	8.05	8.20	7.91	8.01	8.82	7.78	7.96	8.00
8.0	7.46	7.79	7.26	7.47	7.11	7.20	7.75	7.23	7.32	7.31
9.0	6.65	6.60	6.39	6.57	6.27	6.32	6.52	6.48	6.51	6.47
10.0	5.75	5.21	5.42	5.52	5.31	5.38	5.33	5.64	5.57	5.55
11.0	4.82	3.89	4.39	4.56	4.34	4.45	4.38	4.72	4.64	4.58
12.0	3.95	3.01	3.59	3.69	3.47	3.57	3.66	3.92	3.88	3.76
13.0	3.23	2.47	3.10	2.98	2.76	2.93	3.15	3.25	3.19	3.12
14.0	2.68	2.14	2.77	2.45	2.24	2.37	2.75	2.79	2.68	2.59
15.0	2.26	1.96	2.36	2.05	1.88	1.98	2.42	2.41	2.33	2.23
16.0	1.93	1.85	1.92	1.72	1.62	1.71	2.31	2.06	2.03	1.92
17.0	1.64	1.63	1.56	1.49	1.50	1.47	2.16	1.77	1.81	1.68
18.0	1.47	1.30	1.34	1.37	1.39	1.24	1.95	1.50	1.63	1.50
19.0	1.39	1.19	1.16	1.28	1.29	1.04	1.86	1.31	1.45	1.39
20.0	1.28	1.11	1.02	1.28	1.17	.89	1.80	1.17	1.19	1.27
21.0	1.15	.96	.80	1.30	1.05	.78	1.66	1.08	1.00	1.23
22.0	1.06	.91	.62	1.28	.95	.70	1.44	1.07	.87	1.21
23.0	.96	.85	.48	1.21	.80	.66	1.26	1.05	.79	1.15
24.0	.83	.63	.40	1.13	.69	.67	1.19	.97	.74	1.06
25.0	.68	.39	.43	1.00	.61	.71	1.13	.85	.69	.99
26.0	.60	.25	.43	.86	.56	.75	1.02	.70	.63	.92
27.0	.48	.37	.34	.70	.47	.76	.86	.60	.59	.84
28.0	.37	.61	.29	.52	.30	.71	.74	.51	.58	.75
29.0	.31	.75	.26	.37	.11	.65	.66	.31	.54	.67
30.0	.32	.72	.14	.25	.01	.53	.58	.06	.51	.56
31.0	.30	.49	.03	.20	-.07	.40	.55	-.15	.43	.47
32.0	.30	.22	-.08	.15	-.07	.29	.46	-.24	.38	.35
33.0	.36		-.02	.13	-.04	.15	.34	-.22	.31	.30
34.0	.39		.19	.19	.00	.04	.22	-.09	.26	.22
35.0	.33		.27	.26	.12	-.03	.14	.06	.22	.17
LAT.	24.7	24.9	25.6	27.7	27.9	28.1	29.2	30.2	30.3	31.3
LONG.	44.9	50.7	45.0	44.0	43.6	42.8	44.9	41.9	43.3	41.3
Detector	2	2	2	2	2	2	2	2	2	2

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	7.93	10.34	9.48	10.75	10.70	11.01	11.27	9.79	9.56	10.60
1.0	7.91	10.19	9.68	10.48	10.49	10.76	11.06	9.41	9.22	10.48
2.0	7.98	10.06	9.75	10.22	10.27	10.45	10.78	9.02	8.78	10.45
3.0	8.13	9.89	9.52	9.95	10.02	10.10	10.47	8.66	8.25	10.34
4.0	8.28	9.64	9.16	9.67	9.71	9.73	10.11	8.37	7.75	10.12
5.0	8.29	9.31	8.70	9.36	9.40	9.32	9.71	8.14	7.30	9.65
6.0	8.13	8.89	8.13	9.01	9.00	8.88	9.22	7.89	6.92	8.98
7.0	7.71	8.36	7.43	8.58	8.49	8.33	8.62	7.66	6.60	8.24
8.0	7.06	7.72	6.57	8.03	7.92	7.68	7.93	7.28	6.25	7.28
9.0	6.29	6.96	5.57	7.37	7.23	6.94	7.16	6.72	5.78	6.10
10.0	5.47	6.04	4.59	6.57	6.41	6.11	6.30	5.98	5.19	4.88
11.0	4.68	5.09	3.70	5.63	5.51	5.20	5.39	5.15	4.51	3.82
12.0	3.95	4.27	3.04	4.68	4.55	4.28	4.50	4.30	3.81	3.02
13.0	3.32	3.52	2.57	3.80	3.66	3.48	3.72	3.50	3.17	2.59
14.0	2.78	2.93	2.20	3.03	2.97	2.89	3.09	2.82	2.71	2.35
15.0	2.37	2.45	1.96	2.43	2.46	2.50	2.63	2.31	2.35	2.14
16.0	2.03	2.07	1.74	2.03	2.13	2.26	2.29	1.92	2.03	1.91
17.0	1.72	1.83	1.51	1.73	1.89	2.07	2.00	1.64	1.73	1.58
18.0	1.47	1.64	1.31	1.52	1.67	1.88	1.75	1.36	1.46	1.25
19.0	1.27	1.45	1.24	1.38	1.41	1.69	1.56	1.15	1.25	.99
20.0	1.11	1.24	1.22	1.28	1.15	1.49	1.35	.92	1.09	.74
21.0	.97	1.10	1.22	1.21	.91	1.29	1.18	.75	.97	.48
22.0	.82	1.00	1.14	1.17	.76	1.08	1.06	.63	.93	.31
23.0	.69	.96	.98	1.10	.67	.91	.98	.56	.87	.20
24.0	.60	.84	.83	1.03	.62	.75	.90	.53	.82	.18
25.0	.53	.68	.71	.90	.55	.62	.77	.52	.70	.09
26.0	.51	.49	.57	.77	.51	.50	.64	.51	.56	.04
27.0	.49	.31	.40	.66	.40	.40	.54	.47	.46	.10
28.0	.45	.16	.24	.56	.32	.38	.46	.43	.42	.07
29.0	.43	.13	.17	.54	.22	.43	.41	.41	.37	-.01
30.0	.41	.20	.16	.50	.18	.45	.39	.38	.27	-.13
31.0	.39	.28	.21	.47	.17	.47	.35	.35	.14	-.21
32.0	.33	.33	.26	.39	.21	.49	.26	.30	.07	-.24
33.0	.28	.27	.28	.32	.25	.53	.18	.23	.12	-.28
34.0	.19	.19	.26	.23	.27	.55	.13	.15	.17	-.32
35.0	.13	.14	.17	.15	.27	.51	.08	.08	.20	-.23
LAT.	32.0	33.0	34.9	35.6	35.9	38.0	38.3	39.2	39.6	40.1
LONG.	41.5	41.1	44.1	40.6	40.2	40.7	40.5	39.6	39.7	43.0
Detector	2	2	2	2	2	2	2	2	2	2

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m²-sr									
0.0	10.57	10.56	10.52	10.55	11.00		10.98	10.32	11.69	10.82
1.0	10.29	10.29	10.19	10.08	10.67		10.59	10.21	11.52	10.73
2.0	9.92	9.96	9.80	9.51	10.31		10.13	10.15	11.21	10.61
3.0	9.49	9.56	9.36	8.93	9.87		9.59	9.93	10.78	10.27
4.0	8.96	9.08	8.85	8.31	9.44		9.03	9.59	10.23	9.67
5.0	8.32	8.54	8.27	7.65	9.02		8.47	8.99	9.63	8.92
6.0	7.68	7.92	7.63	6.98	8.51		7.88	8.15	8.98	7.97
7.0	7.03	7.24	6.97	6.36	7.85		7.25	7.20	8.28	6.93
8.0	6.52	6.45	6.26	5.82	7.04		6.52	6.21	7.49	5.93
9.0	5.95	5.60	5.53	5.26	6.16		5.70	5.23	6.53	4.90
10.0	5.33	4.79	4.79	4.67	5.21	5.20	4.93	4.35	5.58	4.05
11.0	4.56	4.05	4.10	4.02	4.35	3.88	4.22	3.57	4.67	3.46
12.0	3.77	3.42	3.48	3.39	3.60	3.02	3.57	2.94	3.85	2.96
13.0	3.16	2.89	2.94	2.79	2.97	2.66	3.02	2.49	3.19	2.63
14.0	2.69	2.44	2.46	2.36	2.51	2.43	2.52	2.22	2.68	2.28
15.0	2.37	2.07	2.10	2.04	2.14	2.22	2.10	1.97	2.29	2.00
16.0	2.14	1.78	1.80	1.83	1.85	2.12	1.82	1.77	1.93	1.79
17.0	1.97	1.58	1.56	1.68	1.60	1.90	1.60	1.55	1.62	1.54
18.0	1.76	1.39	1.37	1.51	1.36	1.50	1.42	1.20	1.35	1.45
19.0	1.56	1.21	1.20	1.35	1.16	1.18	1.23	.99	1.06	1.39
20.0	1.37	1.06	1.03	1.18	1.01	.98	1.04	.88	.82	1.09
21.0	1.22	.94	.91	1.02	.92	.79	.88	.77	.61	.81
22.0	1.00	.85	.84	.88	.88	.72	.75	.63	.47	.62
23.0	.81	.78	.81	.78	.86	.76	.66	.38	.40	.57
24.0	.63	.76	.77	.72	.84	.73	.58	.18	.35	.63
25.0	.51	.75	.66	.63	.76	.77	.53	.06	.28	.63
26.0	.40	.70	.53	.59	.61	.75	.48	.18	.23	.55
27.0	.27	.57	.40	.55	.45	.68	.42	.34	.18	.47
28.0	.20	.48	.28	.55	.33	.54	.36	.41	.15	.47
29.0	.16	.39	.19	.57	.26	.61	.29	.41	.15	.50
30.0	.11	.33	.16	.62	.25	.57	.23	.36	.15	.37
31.0	.14	.30	.17	.59	.25	.51	.17	.31	.16	.10
32.0	.21	.21	.23	.47	.25	.52	.10	.21	.12	-.07
33.0	.32	.13	.25	.35	.26	.53	.03	.08	.05	-.01
34.0	.43	.11	.28	.25	.24	.42	-.02	-.05	.01	.13
35.0	.51	.08	.27	.23	.21	.27	-.05	-.09	-.09	.23
LAT.	41.1	42.2	42.4	43.1	43.7	44.5	45.4	45.6	45.7	46.2
LONG.	40.8	40.4	39.8	39.7	41.6	104.0	40.6	45.9	41.0	43.8
Detector	2	2	2	2	2	2	2	2	2	2

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	11.35	11.38	11.14	10.77	9.74	9.89	10.49	11.45	10.25	9.63
1.0	11.16	11.11	10.87	10.44	9.59	9.73	10.35	11.05	10.01	9.41
2.0	10.93	10.77	10.51	10.05	9.41	9.53	10.13	10.55	9.82	9.14
3.0	10.63	10.39	10.10	9.59	9.16	9.23	9.80	10.06	9.62	8.89
4.0	10.25	9.94	9.63	9.07	8.82	8.83	9.37	9.63	9.19	8.63
5.0	9.75	9.41	9.07	8.42	8.36	8.29	8.77	9.15	8.47	8.30
6.0	9.11	8.84	8.41	7.62	7.71	7.59	8.05	8.59	7.62	7.86
7.0	8.27	8.16	7.64	6.71	6.95	6.79	7.26	7.85	6.81	7.23
8.0	7.29	7.33	6.79	5.79	6.11	5.98	6.44	6.80	5.97	6.42
9.0	6.32	6.44	5.89	4.83	5.28	5.19	5.61	5.58	5.11	5.49
10.0	5.31	5.59	4.97	4.00	4.48	4.41	4.82	4.57	4.31	4.52
11.0	4.42	4.76	4.17	3.37	3.73	3.70	4.09	3.66	3.65	3.75
12.0	3.65	3.98	3.49	2.91	3.08	3.05	3.42	3.03	3.22	3.13
13.0	3.11	3.28	3.02	2.61	2.55	2.47	2.84	2.56	2.83	2.71
14.0	2.72	2.72	2.63	2.33	2.13	2.08	2.36	2.20	2.47	2.44
15.0	2.38	2.31	2.37	2.08	1.82	1.75	1.96	1.93	2.13	2.23
16.0	2.10	1.98	2.15	1.81	1.59	1.53	1.63	1.71	1.83	2.01
17.0	1.88	1.72	1.90	1.57	1.44	1.37	1.37	1.49	1.57	1.72
18.0	1.73	1.52	1.67	1.34	1.27	1.23	1.17	1.34	1.38	1.44
19.0	1.61	1.29	1.46	1.17	1.07	1.19	1.04	1.29	1.25	1.22
20.0	1.34	1.06	1.27	1.05	.86	1.15	.95	1.34	1.19	1.09
21.0	1.08	.86	1.11	.88	.71	1.09	.89	1.26	1.08	.97
22.0	.91	.71	.93	.70	.64	1.01	.83	1.04	.91	.85
23.0	.77	.59	.82	.50	.53	.88	.78	.76	.75	.72
24.0	.70	.49	.72	.30	.48	.72	.72	.65	.64	.58
25.0	.58	.42	.66	.19	.42	.54	.66	.54	.50	.41
26.0	.39	.34	.60	.15	.35	.31	.63	.45	.33	.27
27.0	.26	.28	.47	.19	.29	.12	.58	.37	.21	.15
28.0	.10	.24	.31	.23	.25	.03	.54	.49	.21	.10
29.0	.08	.21	.16	.27	.22	-.04	.50	.54	.22	.12
30.0	.11	.18	.05	.21	.22	-.07	.45	.43	.24	.21
31.0	.11	.15	-.01	.15	.23	-.05	.36	.32	.23	.34
32.0	.13	.13	-.07	.09	.21	.01	.27	.29	.19	.45
33.0	.21	.13	-.05	.03	.16	.10	.18	.19	.17	.46
34.0	.30	.13	-.07	.02	.06	.18	.08	.05	.13	.42
35.0	.29	.12	-.07	.02	-.00	.23	-.02	-.04	.12	.33
LAT.	46.9	48.2	48.5	50.1	51.0	51.4	51.6	51.9	52.4	53.6
LONG.	42.3	41.2	42.0	42.6	44.4	44.4	43.3	50.3	100.2	45.5
Detector	2	2	2	2	2	2	2	2	2	2

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.68	10.44	9.48	10.84		8.97	9.92			9.97
1.0	10.50	10.16	9.32	10.69		8.61	9.83			9.67
2.0	10.25	9.88	9.10	10.38		8.27	9.66			9.33
3.0	9.89	9.68	8.74	10.13		7.94	9.37			8.97
4.0	9.29	9.49	8.30	9.88		7.59	8.92			8.53
5.0	8.56	9.34	7.77	9.27		7.21	8.29			8.06
6.0	7.72	9.13	7.12	8.22		6.82	7.50			7.46
7.0	6.86	8.83	6.42	7.03		6.39	6.57			6.77
8.0	6.05	8.41	5.68	5.82		5.94	5.60			5.91
9.0	5.14	7.88	4.89	4.76		5.47	4.68			4.99
10.0	4.30	7.27	4.11	4.03	3.59	4.95	3.99	4.00	3.94	4.14
11.0	3.62	6.58	3.38	3.46	3.28	4.38	3.51	3.33	3.29	3.42
12.0	3.10	5.80	2.78	2.95	2.93	3.85	3.14	2.86	2.94	2.86
13.0	2.73	5.00	2.38	2.58	2.72	3.30	2.81	2.48	2.65	2.41
14.0	2.43	4.17	2.06	2.23	2.42	2.82	2.47	2.06	2.27	2.02
15.0	2.23	3.45	1.81	1.78	2.07	2.42	2.07	1.78	2.10	1.69
16.0	2.04	2.85	1.64	1.34	1.80	2.08	1.71	1.79	1.84	1.45
17.0	1.89	2.38	1.51	1.08	1.64	1.77	1.53	1.70	1.52	1.31
18.0	1.72	2.02	1.35	.92	1.51	1.56	1.39	1.45	1.24	1.17
19.0	1.53	1.74	1.21	.82	1.41	1.36	1.28	1.18	1.08	1.01
20.0	1.37	1.55	1.09	.81	1.27	1.14	1.11	.91	.98	.84
21.0	1.22	1.38	.99	.83	1.08	.95	1.00	.66	.93	.69
22.0	1.11	1.24	.91	.80	.91	.79	.88	.48	.76	.61
23.0	.97	1.16	.86	.65	.75	.64	.84	.55	.65	.58
24.0	.77	1.07	.83	.51	.68	.50	.82	.64	.57	.47
25.0	.63	.98	.77	.34	.56	.40	.82	.53	.47	.34
26.0	.46	.90	.65	.37	.37	.36	.81	.54	.30	.23
27.0	.31	.79	.52	.37	.38	.36	.81	.53	.09	.11
28.0	.19	.67	.41	.30	.41	.39	.70	.47	-.05	.05
29.0	.16	.53	.32	.29	.37	.44	.57	.42	-.02	.02
30.0	.19	.41	.24	.36	.25	.47	.47	.28	.09	-.00
31.0	.22	.30	.15	.38	.11	.46	.41	.18	.16	-.04
32.0	.24	.28	.09	.30	.04	.44	.32	.10	.11	-.08
33.0	.22	.29	.07	.27	.02	.39	.22	.14	-.03	-.19
34.0	.21	.29	.06	.34	-.05	.32	.16	.20	-.05	-.27
35.0	.20	.29	.01	.35	-.10	.24	.12	.34	-.03	-.28
LAT.	53.7	53.9	54.4	54.5	54.7	54.8	56.2	57.0	57.2	57.6
LONG.	99.2	48.6	47.8	58.4	93.3	46.7	95.6	75.0	61.3	54.9
Detector	2	2	2	2	2	2	2	2	2	2

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr								
0.0	10.19		10.32	10.02	9.43	9.36	9.51	9.53	9.06	7.93
1.0	9.93		10.15	9.79	9.18	8.92	9.18	9.34	8.89	7.76
2.0	9.62		9.90	9.56	8.82	8.49	8.82	9.06	8.72	7.58
3.0	9.24		9.49	9.32	8.41	8.02	8.43	8.71	8.51	7.36
4.0	8.77		8.92	9.06	8.05	7.52	8.05	8.23	8.28	7.10
5.0	8.24		8.21	8.79	7.73	7.03	7.65	7.68	7.99	6.81
6.0	7.60		7.48	8.53	7.38	6.56	7.13	7.07	7.61	6.48
7.0	6.88		6.60	8.23	6.94	6.11	6.55	6.40	7.06	6.05
8.0	6.14		5.77	7.83	6.45	5.62	5.93	5.66	6.33	5.53
9.0	5.36		5.12	7.28	5.84	5.03	5.29	4.91	5.50	5.00
10.0	4.56	4.24	4.48	6.59	5.17	4.40	4.59	4.16	4.67	4.40
11.0	3.88	3.76	3.91	5.79	4.49	3.84	3.95	3.51	3.93	3.87
12.0	3.30	3.37	3.39	4.96	3.91	3.34	3.39	2.96	3.37	3.40
13.0	2.85	2.98	2.98	4.13	3.45	2.90	2.92	2.51	2.91	3.05
14.0	2.44	2.53	2.62	3.55	3.12	2.53	2.56	2.20	2.52	2.74
15.0	2.09	2.11	2.23	3.05	2.81	2.23	2.27	1.93	2.17	2.48
16.0	1.83	1.80	1.90	2.63	2.55	2.00	2.02	1.68	1.90	2.19
17.0	1.61	1.47	1.67	2.29	2.21	1.78	1.79	1.47	1.72	1.84
18.0	1.40	1.21	1.51	2.06	1.94	1.52	1.57	1.29	1.57	1.51
19.0	1.25	1.03	1.37	1.90	1.69	1.32	1.35	1.13	1.49	1.18
20.0	1.16	.90	1.23	1.77	1.40	1.10	1.11	.99	1.45	.92
21.0	1.01	.76	1.11	1.60	1.10	.97	.92	.89	1.32	.71
22.0	.90	.61	1.00	1.38	.90	.90	.74	.84	1.14	.53
23.0	.83	.50	.80	1.21	.77	.75	.56	.83	.98	.35
24.0	.80	.39	.63	1.03	.66	.60	.37	.87	.88	.26
25.0	.77	.38	.49	.86	.59	.46	.25	.88	.75	.19
26.0	.67	.40	.43	.68	.59	.38	.18	.82	.62	.16
27.0	.58	.42	.35	.55	.60	.30	.17	.73	.51	.10
28.0	.45	.44	.27	.47	.52	.21	.21	.63	.43	.01
29.0	.36	.38	.28	.31	.43	.19	.26	.52	.38	-.00
30.0	.29	.35	.40	.16	.32	.22	.32	.41	.37	.06
31.0	.21	.39	.45	.04	.20	.27	.36	.34	.38	.10
32.0	.13	.26	.24	-.05	.05	.33	.37	.28	.43	.11
33.0	.07	.11	.30	-.08	-.07	.37	.36	.23	.45	.07
34.0	.02	.04	.35	-.08	-.11	.41	.30	.20	.41	.03
35.0	.02	.05	.37	-.06	-.17	.41	.27	.19	.31	-.01
LAT.	57.7	58.5	58.5	58.6	58.9	59.2	59.3	59.9	60.2	60.2
LONG.	51.7	89.6	86.6	61.0	79.2	89.7	55.2	58.7	64.0	85.8
Detector	2	2	2	2	2	2	2	2	2	2

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr				
0.0	8.47	8.95	8.75	7.92	8.53
1.0	8.23	8.75	8.63	7.71	8.31
2.0	7.92	8.55	8.46	7.44	8.01
3.0	7.64	8.29	8.25	7.16	7.62
4.0	7.45	7.91	7.92	6.86	7.26
5.0	7.18	7.39	7.49	6.50	6.91
6.0	6.84	6.81	6.98	6.13	6.56
7.0	6.32	6.19	6.33	5.70	6.13
8.0	5.64	5.55	5.63	5.28	5.60
9.0	4.91	4.85	4.87	4.75	4.97
10.0	4.15	4.12	4.19	4.18	4.38
11.0	3.45	3.50	3.61	3.65	3.83
12.0	2.99	3.00	3.14	3.16	3.34
13.0	2.65	2.61	2.75	2.75	2.89
14.0	2.33	2.31	2.41	2.46	2.52
15.0	2.01	2.02	2.13	2.25	2.23
16.0	1.64	1.76	1.84	2.06	1.98
17.0	1.26	1.51	1.56	1.88	1.77
18.0	.87	1.30	1.33	1.70	1.57
19.0	.70	1.10	1.13	1.50	1.36
20.0	.69	.91	.96	1.26	1.20
21.0	.75	.75	.80	1.03	1.04
22.0	.79	.62	.62	.86	.88
23.0	.78	.58	.47	.73	.74
24.0	.64	.58	.36	.59	.62
25.0	.45	.60	.28	.55	.51
26.0	.31	.61	.22	.43	.40
27.0	.19	.56	.18	.35	.27
28.0	.08	.47	.16	.27	.18
29.0	.04	.40	.13	.19	.13
30.0	.02	.36	.13	.16	.08
31.0	-.00	.28	.16	.19	.06
32.0	-.04	.19	.17	.19	.08
33.0	-.02	.12	.17	.19	.14
34.0	.05	.05	.15	.19	.21
35.0	.07	-.01	.10	.19	.26
LAT.	60.9	61.2	61.2	61.5	61.7
LONG.	76.1	67.8	63.6	78.2	74.3
Detector	2	2	2	2	2

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.75	10.93	10.54	10.67	10.38	10.48	9.92	10.43	10.08	10.97
1.0	10.61	10.81	10.35	10.37	10.23	10.46	9.87	10.26	9.84	10.80
2.0	10.43	10.68	10.11	9.99	10.03	10.36	9.67	10.00	9.66	10.54
3.0	10.17	10.56	9.88	9.50	9.72	10.09	9.28	9.66	9.55	10.22
4.0	9.84	10.25	9.54	8.94	9.35	9.62	8.90	9.24	9.31	9.85
5.0	9.40	9.81	9.16	8.27	8.86	9.02	8.65	8.71	8.87	9.49
6.0	8.78	9.27	8.62	7.45	8.25	8.45	8.40	8.04	8.40	9.08
7.0	7.85	8.45	7.90	6.62	7.55	7.78	7.93	7.24	7.82	8.60
8.0	6.76	7.50	7.14	5.81	6.70	6.81	7.21	6.38	7.07	7.97
9.0	5.69	6.22	6.25	4.94	5.65	5.78	6.16	5.46	6.13	7.17
10.0	4.62	4.82	5.09	4.10	4.66	4.81	4.95	4.50	5.11	6.32
11.0	3.64	3.67	4.01	3.45	3.78	3.90	3.97	3.71	4.08	5.49
12.0	2.91	2.90	3.20	3.01	3.08	3.19	3.16	3.09	3.22	4.73
13.0	2.45	2.49	2.63	2.68	2.49	2.68	2.47	2.64	2.64	4.04
14.0	2.20	2.17	2.29	2.38	2.04	2.29	2.05	2.32	2.35	3.51
15.0	2.07	1.97	2.17	2.09	1.80	2.01	1.80	2.09	2.17	3.08
16.0	1.95	1.75	2.11	1.81	1.67	1.82	1.63	1.91	2.05	2.71
17.0	1.80	1.53	1.95	1.59	1.51	1.65	1.48	1.70	1.92	2.34
18.0	1.56	1.44	1.72	1.44	1.36	1.46	1.32	1.54	1.80	2.05
19.0	1.35	1.29	1.50	1.30	1.22	1.30	1.24	1.39	1.62	1.82
20.0	1.19	1.04	1.32	1.19	1.04	1.22	1.21	1.23	1.47	1.63
21.0	1.02	.80	1.08	1.10	.86	1.16	1.01	1.08	1.28	1.48
22.0	.83	.55	.85	1.04	.68	1.11	.76	.95	1.08	1.30
23.0	.62	.33	.72	.95	.54	1.00	.66	.85	.87	1.15
24.0	.51	.26	.67	.83	.48	.80	.49	.73	.79	1.06
25.0	.48	.29	.59	.69	.37	.65	.27	.55	.74	1.01
26.0	.50	.32	.73	.55	.23	.58	.16	.40	.69	.96
27.0	.51	.34	.74	.44	.15	.53	.20	.34	.63	.91
28.0	.42	.30	.68	.35	.15	.44	.30	.33	.52	.86
29.0	.19	.20	.65	.28	.24	.25	.29	.32	.43	.77
30.0	-.01	.14	.52	.23	.26	.08	.16	.29	.37	.60
31.0	-.17	.06	.35	.17	.25	.07	.03	.31	.32	.46
32.0	-.20	.01	.39	.06	.25	.17	.10	.35	.24	.36
33.0	-.12	.02	.33	-.03	.21	.34	.15	.40	.19	.32
34.0	-.06	.08	.17	-.03	.15	.49	.15	.44	.09	.35
35.0	-.05	.15	.06	.05	-.04	.34	.15	.36	-.04	.43
LAT.	17.4	17.6	19.7	19.9	19.9	21.0	21.2	21.3	23.8	23.8
LONG.	52.0	55.5	50.2	48.4	50.8	47.7	51.9	47.5	45.7	46.3
Detector	3	3	3	3	3	3	3	3	3	3

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.37	10.34	0.00	10.38	10.56	10.51	9.96	8.44	8.89	10.09
1.0	10.18	10.26	0.00	10.19	10.35	10.32	9.97	8.57	8.62	9.99
2.0	9.96	10.16	10.49	9.99	10.14	10.04	10.08	8.67	8.41	9.77
3.0	9.70	10.08	10.19	9.73	9.88	9.73	10.14	8.68	8.23	9.44
4.0	9.33	9.89	9.82	9.40	9.57	9.35	9.91	8.54	8.03	9.01
5.0	8.82	9.61	9.42	8.97	9.18	8.92	9.47	8.22	7.80	8.51
6.0	8.21	9.10	8.93	8.40	8.68	8.36	8.81	7.74	7.40	7.97
7.0	7.51	8.40	8.33	7.74	8.06	7.72	8.03	7.11	6.81	7.36
8.0	6.74	7.54	7.52	6.95	7.30	6.96	7.12	6.35	6.16	6.63
9.0	5.92	6.42	6.58	6.05	6.44	6.14	6.04	5.55	5.45	5.81
10.0	5.04	5.15	5.54	5.16	5.49	5.25	4.96	4.75	4.70	4.92
11.0	4.19	3.89	4.53	4.30	4.61	4.37	4.09	3.97	3.92	4.12
12.0	3.43	3.05	3.70	3.57	3.78	3.61	3.47	3.30	3.22	3.45
13.0	2.87	2.54	3.04	2.97	3.11	2.99	2.97	2.79	2.69	2.94
14.0	2.45	2.30	2.61	2.47	2.59	2.52	2.59	2.44	2.28	2.54
15.0	2.15	2.14	2.25	2.09	2.27	2.18	2.32	2.17	1.99	2.24
16.0	1.93	1.88	1.98	1.89	2.00	1.95	2.09	1.94	1.83	2.02
17.0	1.73	1.62	1.80	1.70	1.81	1.76	1.84	1.75	1.73	1.81
18.0	1.53	1.32	1.67	1.51	1.67	1.61	1.65	1.59	1.64	1.64
19.0	1.26	1.07	1.54	1.28	1.55	1.49	1.50	1.43	1.52	1.47
20.0	.98	.91	1.40	1.06	1.39	1.37	1.34	1.29	1.38	1.33
21.0	.73	.82	1.25	.88	1.22	1.22	1.16	1.15	1.20	1.16
22.0	.58	.89	1.06	.72	1.04	1.05	1.13	.98	1.03	.98
23.0	.53	.83	.89	.59	.92	.83	1.13	.84	.90	.84
24.0	.53	.71	.77	.47	.85	.58	1.07	.73	.83	.73
25.0	.56	.72	.68	.37	.81	.33	.94	.63	.75	.68
26.0	.56	.64	.63	.33	.79	.20	.80	.54	.63	.66
27.0	.54	.51	.61	.35	.74	.17	.65	.46	.49	.62
28.0	.50	.39	.60	.39	.66	.22	.58	.38	.37	.56
29.0	.48	.38	.56	.35	.55	.26	.54	.30	.29	.53
30.0	.42	.28	.51	.30	.48	.25	.44	.27	.27	.52
31.0	.34	.10	.45	.29	.44	.27	.33	.30	.24	.50
32.0	.30	.11	.40	.30	.42	.33	.28	.34	.20	.46
33.0	.33	.18	.32	.36	.42	.36	.20	.34	.18	.40
34.0	.36	.17	.25	.40	.42	.33	.14	.29	.17	.31
35.0	.33	.15	.18	.37	.46	.24	.12	.20	.18	.21
LAT.	25.1	25.2	26.0	27.9	28.3	28.6	29.8	30.6	30.9	31.8
LONG.	44.4	50.3	44.6	43.5	43.2	42.4	44.5	41.6	42.9	41.0
Detector	3	3	3	3	3	3	3	3	3	3

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	9.11	10.38	8.29	10.19	10.21	10.25	10.24	9.13	9.28	10.55
1.0	9.20	10.20	8.40	10.00	10.04	10.03	9.93	8.80	8.91	10.27
2.0	9.22	9.98	8.63	9.81	9.91	9.82	9.57	8.46	8.60	9.98
3.0	9.16	9.69	8.88	9.57	9.76	9.61	9.18	8.10	8.31	9.68
4.0	8.92	9.34	9.05	9.30	9.55	9.37	8.77	7.72	8.04	9.40
5.0	8.50	8.94	8.99	8.97	9.21	9.03	8.31	7.35	7.76	9.08
6.0	7.94	8.51	8.62	8.54	8.78	8.59	7.85	6.98	7.40	8.64
7.0	7.28	8.01	7.92	7.99	8.21	8.01	7.34	6.59	6.94	8.03
8.0	6.49	7.42	6.98	7.30	7.55	7.26	6.87	6.14	6.36	7.17
9.0	5.61	6.72	5.85	6.51	6.79	6.41	6.33	5.57	5.70	6.08
10.0	4.75	5.99	4.75	5.65	5.91	5.51	5.69	4.94	4.94	5.03
11.0	4.00	5.16	3.78	4.77	4.98	4.63	4.93	4.30	4.20	4.05
12.0	3.36	4.25	2.97	3.92	4.10	3.83	4.09	3.68	3.54	3.33
13.0	2.86	3.44	2.43	3.21	3.34	3.15	3.37	3.11	2.98	2.83
14.0	2.50	2.80	2.03	2.68	2.77	2.62	2.75	2.63	2.54	2.41
15.0	2.26	2.38	1.74	2.36	2.35	2.22	2.30	2.25	2.21	2.03
16.0	2.07	2.10	1.53	2.18	2.04	1.92	1.99	1.97	1.97	1.74
17.0	1.88	1.88	1.41	2.02	1.78	1.70	1.77	1.79	1.79	1.54
18.0	1.69	1.68	1.31	1.80	1.58	1.56	1.60	1.65	1.66	1.28
19.0	1.44	1.48	1.09	1.52	1.43	1.43	1.42	1.50	1.57	1.10
20.0	1.25	1.27	.82	1.28	1.32	1.29	1.27	1.33	1.49	.98
21.0	1.10	1.07	.60	1.09	1.18	1.17	1.11	1.14	1.40	.92
22.0	1.00	.93	.55	.97	1.03	1.08	.96	.96	1.28	.82
23.0	.90	.85	.50	.86	.84	1.01	.82	.78	1.17	.64
24.0	.81	.77	.43	.75	.68	.93	.66	.63	1.05	.43
25.0	.70	.70	.40	.66	.57	.82	.54	.50	.92	.28
26.0	.61	.63	.45	.58	.52	.70	.46	.39	.83	.24
27.0	.52	.52	.49	.52	.50	.58	.39	.30	.76	.27
28.0	.43	.45	.32	.49	.44	.46	.34	.24	.69	.25
29.0	.34	.44	.09	.48	.37	.37	.27	.18	.62	.13
30.0	.27	.45	.12	.47	.27	.33	.19	.12	.59	.06
31.0	.23	.46	.14	.45	.19	.32	.17	.06	.58	.10
32.0	.20	.47	.13	.39	.16	.32	.17	-.00	.55	.17
33.0	.20	.46	.11	.34	.14	.32	.19	-.05	.48	.32
34.0	.22	.47	.05	.27	.12	.30	.18	-.08	.37	.35
35.0	.27	.48	-.00	.20	.09	.29	.17	-.10	.29	.24
LAT.	32.4	33.5	35.5	36.1	36.3	38.5	38.9	39.7	40.1	40.6
LONG.	41.3	40.8	44.0	40.4	40.1	40.6	40.4	39.6	39.7	43.2
Detector	3	3	3	3	3	3	3	3	3	3

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	9.87	10.36	9.83		10.14	10.62	11.11	10.79	10.14	9.95
1.0	9.67	10.14	9.50		9.70	10.36	10.94	10.59	9.91	10.07
2.0	9.42	9.84	9.13		9.19	9.99	10.70	10.35	9.58	10.10
3.0	9.12	9.47	8.73		8.61	9.53	10.32	9.99	9.29	9.81
4.0	8.75	9.04	8.31		7.99	8.99	9.81	9.52	8.96	9.15
5.0	8.29	8.55	7.83		7.23	8.38	9.20	8.95	8.38	8.20
6.0	7.76	8.00	7.25		6.71	7.75	8.50	8.32	7.47	7.04
7.0	7.14	7.36	6.60		6.10	7.03	7.75	7.62	6.46	5.86
8.0	6.43	6.68	5.92		5.47	6.21	6.95	6.81	5.47	5.01
9.0	5.63	5.96	5.28		4.78	5.36	6.09	5.98	4.61	4.40
10.0	4.82	5.23	4.66	4.75	4.06	4.52	5.19	5.10	3.99	3.81
11.0	4.05	4.49	4.05	3.50	3.39	3.80	4.29	4.25	3.49	3.26
12.0	3.34	3.78	3.47	2.73	2.78	3.19	3.55	3.52	3.01	2.76
13.0	2.71	3.17	2.92	2.50	2.29	2.69	2.98	2.93	2.61	2.33
14.0	2.22	2.68	2.44	2.35	1.94	2.30	2.57	2.46	2.29	2.04
15.0	1.87	2.30	2.06	2.16	1.73	2.02	2.25	2.07	1.99	1.73
16.0	1.61	1.99	1.76	2.07	1.59	1.85	1.95	1.75	1.64	1.46
17.0	1.37	1.78	1.51	1.78	1.48	1.66	1.69	1.48	1.34	1.25
18.0	1.19	1.65	1.34	1.38	1.40	1.49	1.47	1.26	1.18	1.11
19.0	1.04	1.54	1.20	1.11	1.27	1.30	1.27	1.08	1.08	1.06
20.0	.91	1.39	1.07	1.06	1.13	1.09	1.11	.92	.95	.95
21.0	.83	1.21	.94	.92	.99	.92	.98	.78	.81	.81
22.0	.76	1.03	.82	.79	.90	.76	.89	.68	.75	.70
23.0	.67	.88	.73	.81	.84	.62	.82	.63	.69	.65
24.0	.57	.76	.69	.65	.81	.47	.73	.60	.63	.58
25.0	.49	.64	.63	.49	.73	.31	.62	.59	.56	.46
26.0	.42	.55	.57	.46	.59	.18	.50	.57	.47	.39
27.0	.37	.49	.48	.34	.44	.09	.40	.52	.35	.28
28.0	.35	.46	.39	.13	.31	.06	.30	.46	.21	.26
29.0	.35	.43	.29	.03	.22	.07	.27	.42	.10	.26
30.0	.33	.43	.19	.06	.16	.10	.26	.37	.01	.13
31.0	.28	.49	.11	.19	.09	.10	.27	.35	-.07	.04
32.0	.20	.57	.05	.32	.03	.08	.26	.31	-.11	.03
33.0	.12	.63	.02	.31	.02	.05	.22	.26	-.11	.08
34.0	.07	.61	-.04	.22	.05	.03	.16	.22	-.03	.10
35.0	.02	.52	-.07	.16	.09	.04	.15	.19	.03	.05
LAT.	41.6	42.7	42.8	43.2	43.7	44.3	45.7	45.9	46.2	47.1
LONG.	40.8	40.5	39.9	104.2	39.9	41.7	41.3	40.7	46.4	44.4
Detector	3	3	3	3	3	3	3	3	3	3

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.81	10.90	10.18	10.49	9.25	10.34	9.21	9.21	10.65	10.26
1.0	10.62	10.66	9.88	10.37	9.06	10.16	9.05	9.06	10.50	10.13
2.0	10.34	10.35	9.54	10.13	8.81	9.87	8.85	8.89	10.30	9.84
3.0	9.94	9.96	9.12	9.78	8.48	9.41	8.53	8.66	10.13	9.45
4.0	9.46	9.46	8.68	9.34	8.06	8.76	8.13	8.31	9.92	8.96
5.0	8.88	8.94	8.13	8.77	7.60	7.97	7.69	7.83	9.36	8.32
6.0	8.26	8.37	7.53	8.10	7.01	7.05	7.18	7.24	8.64	7.60
7.0	7.53	7.73	6.86	7.29	6.33	6.05	6.58	6.54	7.59	6.81
8.0	6.72	7.03	6.15	6.36	5.59	5.17	5.89	5.79	6.01	5.94
9.0	5.85	6.30	5.38	5.35	4.83	4.42	5.13	5.09	4.89	5.14
10.0	4.98	5.50	4.59	4.36	4.15	3.82	4.36	4.38	3.93	4.50
11.0	4.21	4.72	3.87	3.55	3.57	3.45	3.66	3.73	3.30	3.98
12.0	3.56	3.99	3.26	2.92	3.05	3.13	3.04	3.16	2.97	3.57
13.0	3.02	3.33	2.74	2.45	2.60	2.81	2.53	2.68	2.66	3.18
14.0	2.55	2.77	2.29	2.13	2.22	2.50	2.12	2.28	2.35	2.75
15.0	2.14	2.30	1.95	1.87	1.96	2.26	1.82	1.97	2.09	2.41
16.0	1.77	1.91	1.66	1.64	1.77	2.04	1.63	1.68	1.91	2.11
17.0	1.48	1.61	1.42	1.44	1.60	1.81	1.45	1.40	1.63	1.77
18.0	1.25	1.41	1.22	1.30	1.43	1.55	1.29	1.12	1.24	1.45
19.0	1.09	1.25	1.05	1.20	1.24	1.32	1.15	.87	1.03	1.15
20.0	1.01	1.13	.91	1.09	1.07	1.11	1.00	.67	.88	.92
21.0	.92	1.03	.79	.97	.89	.90	.87	.51	.61	.83
22.0	.82	.95	.72	.85	.72	.78	.77	.38	.51	.86
23.0	.72	.88	.71	.72	.55	.70	.69	.29	.52	.89
24.0	.66	.77	.70	.64	.44	.64	.58	.21	.60	.78
25.0	.66	.64	.65	.62	.36	.56	.48	.17	.66	.61
26.0	.66	.49	.62	.60	.32	.53	.40	.12	.56	.47
27.0	.63	.33	.58	.56	.26	.54	.38	.10	.45	.37
28.0	.56	.19	.55	.52	.18	.51	.38	.09	.39	.36
29.0	.46	.09	.52	.46	.09	.44	.38	.09	.28	.40
30.0	.35	.02	.48	.37	.05	.33	.35	.11	.14	.38
31.0	.26	-.03	.44	.27	.08	.23	.29	.13	.17	.25
32.0	.23	-.10	.41	.21	.16	.14	.22	.15	.25	.09
33.0	.20	-.17	.38	.22	.24	.10	.15	.14	.22	-.06
34.0	.17	-.24	.34	.28	.23	.05	.04	.12	.18	-.15
35.0	.12	-.25	.31	.33	.19	-.01	-.08	.12	.18	-.24
LAT.	47.4	48.7	49.0	50.7	51.5	51.5	51.7	52.0	52.6	52.9
LONG.	42.7	41.5	42.3	43.2	45.0	101.0	44.9	43.8	51.5	100.1
Detector	3	3	3	3	3	3	3	3	3	3

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0		8.83	10.29	9.89	8.87	9.21	9.78			
1.0		8.57	10.09	9.73	8.75	8.86	9.46			
2.0		8.28	9.83	9.51	8.64	8.43	9.12			
3.0		7.96	9.54	9.38	8.53	7.99	8.69			
4.0		7.58	9.19	9.21	8.35	7.58	8.14			
5.0		7.15	8.80	8.74	8.01	7.16	7.43			
6.0		6.71	8.43	8.03	7.52	6.71	6.60			
7.0		6.26	8.08	6.92	6.89	6.22	5.79			
8.0		5.76	7.72	5.75	6.18	5.71	5.13			
9.0		5.17	7.25	4.68	5.46	5.16	4.57			
10.0	3.95	4.51	6.65	3.83	4.72	4.53	4.09	4.10	3.97	3.60
11.0	3.52	3.82	5.91	3.19	4.00	3.94	3.68	3.48	3.39	3.18
12.0	2.97	3.23	5.12	2.58	3.35	3.38	3.29	2.81	2.85	2.94
13.0	2.49	2.76	4.36	2.17	2.79	2.90	2.93	2.35	2.52	2.63
14.0	2.17	2.39	3.64	1.90	2.35	2.52	2.62	2.05	2.27	2.31
15.0	1.89	2.08	3.05	1.66	2.02	2.21	2.34	1.75	2.04	1.88
16.0	1.56	1.78	2.62	1.55	1.72	1.95	2.05	1.53	1.81	1.60
17.0	1.36	1.47	2.32	1.47	1.45	1.72	1.76	1.40	1.61	1.45
18.0	1.28	1.24	2.07	1.36	1.20	1.52	1.49	1.33	1.54	1.21
19.0	1.23	1.11	1.83	1.20	1.00	1.35	1.21	1.09	1.47	1.01
20.0	1.11	1.08	1.63	.93	.87	1.21	.98	.88	1.32	.90
21.0	.93	1.04	1.45	.61	.78	1.08	.88	.72	1.19	.78
22.0	.79	.98	1.31	.36	.69	.95	.80	.51	1.03	.65
23.0	.73	.88	1.19	.20	.57	.81	.70	.48	.68	.45
24.0	.64	.79	1.08	.10	.45	.68	.65	.51	.45	.29
25.0	.52	.70	.96	.06	.37	.56	.62	.54	.30	.22
26.0	.51	.62	.81	.09	.33	.45	.57	.55	.23	.17
27.0	.55	.52	.64	.14	.37	.36	.50	.41	.22	.20
28.0	.50	.43	.51	.18	.46	.29	.44	.23	.23	.22
29.0	.46	.34	.43	.22	.50	.23	.40	.17	.25	.13
30.0	.33	.27	.42	.13	.47	.18	.39	.34	.16	.03
31.0	.25	.22	.45	-.11	.40	.13	.43	.36	.05	-.01
32.0	.26	.16	.45	-.18	.33	.09	.48	.27	-.02	-.15
33.0	.25	.12	.44	-.10	.30	.08	.43	.15	-.09	-.19
34.0	.18	.08	.41	-.02	.29	.07	.40	-.03	-.06	-.09
35.0	.14	.13	.34	.05	.29	.11	.38	-.08	.08	-.13
LAT.	53.7	54.3	54.3	54.9	54.9	55.1	55.6	56.7	57.7	57.7
LONG.	94.9	46.4	49.5	60.0	48.6	47.3	96.9	77.6	92.0	63.9
Detector	3	3	3	3	3	3	3	3	3	3

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	9.07	9.52	9.53	8.51	8.55	9.95	9.32	8.15	9.21	8.90
1.0	9.10	9.35	9.41	8.38	8.28	9.77	9.06	7.88	9.03	8.57
2.0	9.09	9.12	9.22	8.32	7.99	9.57	8.76	7.59	8.72	8.21
3.0	8.91	8.79	8.92	8.14	7.64	9.34	8.41	7.29	8.35	7.83
4.0	8.47	8.32	8.53	7.83	7.22	9.04	7.96	7.01	7.93	7.41
5.0	7.84	7.75	8.07	7.53	6.67	8.62	7.43	6.67	7.43	6.94
6.0	7.05	7.10	7.49	7.23	6.04	8.13	6.82	6.27	6.86	6.42
7.0	6.10	6.31	6.83	6.83	5.31	7.61	6.15	5.79	6.17	5.83
8.0	5.27	5.41	6.13	6.28	4.61	7.05	5.46	5.25	5.46	5.12
9.0	4.61	4.56	5.37	5.57	4.01	6.45	4.74	4.66	4.79	4.39
10.0	3.95	3.88	4.61	4.77	3.54	5.82	4.13	4.09	4.14	3.77
11.0	3.35	3.32	3.92	4.01	3.21	5.12	3.59	3.58	3.55	3.30
12.0	2.91	2.90	3.29	3.36	2.91	4.45	3.12	3.14	3.05	2.93
13.0	2.61	2.58	2.77	2.85	2.62	3.87	2.72	2.80	2.65	2.60
14.0	2.34	2.29	2.35	2.45	2.38	3.37	2.37	2.51	2.33	2.33
15.0	2.08	2.03	2.02	2.14	2.19	2.98	2.10	2.25	2.08	2.12
16.0	1.87	1.78	1.77	1.86	2.03	2.66	1.87	1.97	1.88	1.95
17.0	1.67	1.54	1.55	1.59	1.88	2.40	1.68	1.70	1.68	1.77
18.0	1.54	1.31	1.34	1.36	1.73	2.17	1.53	1.47	1.50	1.51
19.0	1.43	1.12	1.16	1.17	1.57	1.96	1.39	1.28	1.32	1.23
20.0	1.21	.93	1.00	1.03	1.39	1.75	1.26	1.12	1.10	1.02
21.0	.94	.76	.87	.91	1.17	1.54	1.12	.97	.90	.85
22.0	.67	.66	.73	.81	.94	1.34	.99	.86	.75	.76
23.0	.45	.59	.63	.71	.75	1.11	.87	.81	.62	.71
24.0	.38	.56	.56	.58	.58	.86	.82	.75	.55	.68
25.0	.39	.53	.53	.45	.42	.68	.78	.70	.49	.63
26.0	.35	.50	.52	.30	.26	.60	.73	.63	.41	.53
27.0	.31	.46	.51	.22	.09	.56	.66	.56	.32	.51
28.0	.27	.38	.48	.16	-.08	.56	.56	.45	.23	.54
29.0	.20	.29	.42	.13	-.23	.53	.47	.30	.17	.53
30.0	.20	.22	.34	.10	-.32	.53	.37	.17	.14	.49
31.0	.19	.18	.28	.09	-.35	.53	.30	.04	.15	.42
32.0	.22	.15	.25	.08	-.31	.51	.24	-.04	.19	.30
33.0	.21	.09	.22	.04	-.24	.46	.22	-.06	.24	.16
34.0	.07	.06	.20	-.03	-.17	.40	.22	-.08	.28	.00
35.0	-.13	.00	.19	-.11	-.10	.30	.24	-.08	.29	-.06
LAT.	57.8	58.0	58.0	58.7	58.8	58.9	59.5	59.9	60.2	60.4
LONG.	88.7	56.2	52.7	81.0	91.1	62.5	56.2	87.4	60.1	66.0
Detector	3	3	3	3	3	3	3	3	3	3

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr				
0.0	8.09	8.46	9.08	7.31	7.86
1.0	7.92	8.24	8.98	7.17	7.76
2.0	7.73	8.03	8.80	7.04	7.64
3.0	7.52	7.79	8.51	6.85	7.48
4.0	7.37	7.51	8.08	6.60	7.28
5.0	7.23	7.14	7.55	6.31	6.98
6.0	6.83	6.63	6.93	5.92	6.59
7.0	6.18	6.03	6.29	5.47	6.10
8.0	5.40	5.33	5.65	4.95	5.51
9.0	4.62	4.68	5.00	4.37	4.85
10.0	3.92	4.06	4.41	3.79	4.11
11.0	3.39	3.48	3.91	3.28	3.41
12.0	3.01	3.01	3.45	2.84	2.85
13.0	2.78	2.66	3.06	2.48	2.47
14.0	2.50	2.38	2.72	2.17	2.17
15.0	2.20	2.14	2.42	1.90	1.94
16.0	1.98	1.89	2.14	1.69	1.72
17.0	1.81	1.60	1.87	1.47	1.51
18.0	1.54	1.34	1.62	1.27	1.31
19.0	1.27	1.12	1.41	1.09	1.11
20.0	1.07	.95	1.24	.93	.93
21.0	.88	.81	1.09	.78	.75
22.0	.71	.69	.97	.65	.64
23.0	.53	.60	.87	.53	.57
24.0	.39	.53	.77	.44	.53
25.0	.36	.47	.68	.39	.49
26.0	.32	.42	.61	.38	.45
27.0	.30	.37	.54	.37	.41
28.0	.31	.32	.46	.35	.34
29.0	.30	.26	.38	.36	.27
30.0	.24	.23	.29	.38	.21
31.0	.20	.20	.21	.36	.16
32.0	.20	.21	.16	.30	.12
33.0	.20	.24	.10	.24	.08
34.0	.19	.28	.09	.15	.02
35.0	.13	.32	.10	.06	-.05
LAT.	60.7	61.3	61.4	61.4	61.7
LONG.	78.5	69.4	65.1	79.7	76.0
Detector	3	3	3	3	3

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.61	10.36	10.48	10.14	10.47	10.08	10.56	10.18	10.65	10.34
1.0	10.37	10.30	10.44	10.08	10.24	9.94	10.42	9.93	10.47	10.04
2.0	10.06	10.30	10.30	9.94	9.90	9.54	10.28	9.64	10.20	9.68
3.0	9.74	10.16	10.00	9.69	9.42	9.09	10.04	9.29	9.89	9.28
4.0	9.35	9.92	9.50	9.29	8.79	8.77	9.61	8.87	9.62	8.77
5.0	9.68	9.39	8.77	8.76	8.03	8.43	8.97	8.22	9.30	8.17
6.0	8.25	8.54	7.94	8.09	7.19	7.90	8.21	7.41	8.86	7.49
7.0	7.38	7.45	7.00	7.28	6.37	7.26	7.32	6.53	8.24	6.75
8.0	6.35	6.05	6.07	6.24	5.53	6.39	6.39	5.66	7.51	5.97
9.0	5.34	4.83	5.13	5.13	4.71	5.30	5.47	4.82	6.64	5.16
10.0	4.39	3.96	4.27	4.03	3.93	4.21	4.59	4.06	5.71	4.44
11.0	3.64	3.29	3.59	3.21	3.33	3.41	3.77	3.40	4.74	3.80
12.0	3.09	2.80	3.15	2.68	2.88	2.82	3.13	2.87	3.94	3.21
13.0	2.64	2.37	2.83	2.41	2.50	2.43	2.76	2.50	3.33	2.76
14.0	2.27	2.21	2.50	2.13	2.17	2.23	2.58	2.22	2.89	2.51
15.0	2.00	2.06	2.23	1.85	1.91	2.06	2.34	2.04	2.51	2.26
16.0	1.82	1.81	2.09	1.71	1.67	1.81	2.05	1.88	2.18	1.99
17.0	1.67	1.57	1.92	1.57	1.55	1.56	1.89	1.67	1.90	1.75
18.0	1.47	1.33	1.67	1.29	1.46	1.38	1.78	1.47	1.75	1.53
19.0	1.38	1.19	1.44	1.04	1.41	1.32	1.58	1.28	1.62	1.27
20.0	1.38	1.04	1.25	.86	1.35	1.24	1.34	1.11	1.47	1.00
21.0	1.35	.87	1.06	.68	1.23	1.00	1.14	.93	1.30	.80
22.0	1.20	.80	.94	.53	1.10	.75	1.05	.85	1.10	.73
23.0	1.01	.69	.88	.51	.96	.59	.99	.79	.92	.76
24.0	.89	.48	.84	.57	.82	.50	.90	.75	.80	.80
25.0	.87	.38	.80	.65	.68	.48	.77	.68	.73	.79
26.0	.87	.24	.73	.71	.56	.48	.68	.57	.66	.68
27.0	.80	.09	.63	.63	.50	.36	.64	.47	.57	.53
28.0	.66	.08	.51	.47	.48	.33	.61	.43	.49	.37
29.0	.54	.09	.31	.29	.50	.36	.65	.44	.43	.30
30.0	.44	.10	.14	.11	.50	.20	.72	.41	.44	.30
31.0	.40	.08	.05	-.04	.43	.02	.75	.36	.45	.30
32.0	.37	.15	.05	-.15	.34	-.12	.73	.27	.41	.21
33.0	.38	.20	.00	-.18	.26	-.11	.65	.15	.33	.13
34.0	.38	.12	.05	-.13	.22	.09	.52	.10	.31	.16
35.0	.37	.09	.17	-.11	.20	.22	.43	.10	.28	.15
LAT.	17.7	18.0	20.0	20.1	20.3	21.4	21.6	21.7	24.2	24.3
LONG.	51.2	54.5	49.3	50.0	47.7	51.2	46.7	46.8	45.8	45.0
Detector	4	4	4	4	4	4	4	4	4	4

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.24	10.89	0.00	9.50	10.11	9.65	9.16	9.63		
1.0	10.02	10.69	0.00	9.42	9.93	9.54	8.98	9.59	7.45	9.63
2.0	9.79	10.44	0.00	9.34	9.67	9.39	8.74	9.38	7.32	9.41
3.0	9.56	10.03	0.00	9.21	9.32	9.15	8.53	9.02	7.18	9.10
4.0	9.27	9.55	0.00	9.01	8.83	8.74	8.46	8.55	6.99	8.73
5.0	8.90	9.05	0.00	8.67	8.21	8.22	8.43	7.96	6.72	8.28
6.0	8.36	8.36	8.16	8.14	7.50	7.64	8.12	7.22	6.33	7.77
7.0	7.69	7.51	7.50	7.32	6.68	7.02	7.44	6.40	5.81	7.15
8.0	6.91	6.54	6.73	6.33	5.83	6.35	6.54	5.50	5.20	6.36
9.0	6.08	5.52	5.89	5.34	5.00	5.57	5.67	4.54	4.53	5.50
10.0	5.25	4.68	5.00	4.42	4.22	4.77	4.86	3.69	3.84	4.56
11.0	4.49	3.84	4.15	3.64	3.60	3.99	4.09	3.06	3.20	3.67
12.0	3.78	3.29	3.52	3.06	3.07	3.33	3.40	2.64	2.72	2.93
13.0	3.14	2.92	3.11	2.67	2.67	2.86	2.93	2.30	2.41	2.44
14.0	2.61	2.61	2.82	2.39	2.41	2.53	2.64	1.99	2.20	2.11
15.0	2.19	2.33	2.53	2.17	2.22	2.25	2.44	1.72	2.07	1.86
16.0	1.90	2.05	2.16	1.97	2.04	2.00	2.24	1.51	1.94	1.64
17.0	1.65	1.83	1.82	1.78	1.86	1.79	2.08	1.35	1.73	1.42
18.0	1.43	1.65	1.51	1.60	1.71	1.58	1.94	1.23	1.47	1.23
19.0	1.25	1.49	1.26	1.42	1.57	1.42	1.73	1.18	1.23	1.06
20.0	1.15	1.38	1.05	1.23	1.44	1.32	1.54	1.14	1.07	.91
21.0	1.10	1.18	.85	1.10	1.29	1.26	1.38	1.14	1.01	.80
22.0	1.12	.97	.73	1.01	1.12	1.22	1.21	1.15	1.01	.72
23.0	1.13	.76	.72	.88	.96	1.16	1.09	1.09	1.07	.67
24.0	1.07	.52	.79	.70	.84	1.05	1.00	1.00	1.07	.62
25.0	.99	.47	.86	.53	.71	.94	.98	.91	1.01	.59
26.0	.88	.40	.85	.47	.58	.83	.93	.80	.88	.62
27.0	.72	.27	.80	.45	.44	.75	.81	.70	.71	.66
28.0	.50	.25	.68	.43	.34	.64	.71	.60	.51	.60
29.0	.32	.25	.55	.38	.31	.51	.73	.50	.37	.48
30.0	.21	.27	.44	.35	.27	.32	.75	.41	.29	.32
31.0	.18	.34	.32	.30	.24	.12	.67	.32	.23	.21
32.0	.21	.29	.20	.23	.21	-.05	.59	.23	.17	.16
33.0	.27	.15	.11	.24	.21	-.12	.52	.15	.12	.16
34.0	.35	.02	.01	.26	.25	-.13	.55	.06	.08	.16
35.0	.40	-.09	-.04	.28	.31	-.08	.62	.03	-.02	.16
LAT.	25.4	25.5	26.3	28.1	28.7	29.0	30.5	31.1	31.3	32.2
LONG.	43.9	49.9	44.2	43.1	42.9	42.0	44.1	41.2	42.6	40.8
Detector	4	4	4	4	4	4	4	4	4	4

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	9.90	10.29	9.25	9.97	10.08	9.84	9.76	8.87	9.46	10.68
1.0	9.71	10.06	9.42	9.75	9.91	9.50	9.43	8.54	9.06	10.48
2.0	9.50	9.77	9.50	9.53	9.69	9.17	9.05	8.28	8.62	10.30
3.0	9.26	9.46	9.47	9.29	9.41	8.79	8.64	8.05	8.18	10.04
4.0	8.92	9.15	9.24	9.00	9.02	8.34	8.19	7.79	7.74	9.62
5.0	8.46	8.77	8.75	8.61	8.55	7.76	7.73	7.43	7.29	9.06
6.0	7.90	8.35	8.11	8.06	8.01	7.09	7.23	6.95	6.75	8.30
7.0	7.26	7.79	7.33	7.32	7.40	6.40	6.70	6.42	6.11	7.32
8.0	6.58	7.15	6.45	6.49	6.70	5.72	6.14	5.83	5.40	6.19
9.0	5.80	6.43	5.49	5.64	5.95	5.09	5.52	5.23	4.70	4.92
10.0	4.95	5.61	4.58	4.76	5.13	4.47	4.86	4.64	4.04	3.83
11.0	4.07	4.68	3.84	4.01	4.26	3.83	4.15	4.03	3.44	3.13
12.0	3.27	3.77	3.31	3.36	3.44	3.24	3.47	3.43	2.89	2.67
13.0	2.66	2.98	2.92	2.83	2.81	2.75	2.90	2.93	2.47	2.31
14.0	2.19	2.40	2.56	2.46	2.33	2.36	2.48	2.56	2.20	2.16
15.0	1.84	2.02	2.14	2.16	2.05	2.04	2.21	2.26	1.98	2.05
16.0	1.58	1.76	1.73	1.95	1.86	1.81	1.98	2.05	1.75	1.87
17.0	1.44	1.60	1.43	1.77	1.69	1.62	1.79	1.91	1.52	1.66
18.0	1.38	1.44	1.17	1.58	1.50	1.45	1.63	1.78	1.31	1.51
19.0	1.36	1.27	.93	1.37	1.29	1.29	1.50	1.66	1.15	1.35
20.0	1.33	1.15	.72	1.20	1.10	1.12	1.41	1.53	1.03	1.13
21.0	1.30	1.07	.60	1.12	.95	.95	1.30	1.40	.90	.88
22.0	1.28	1.00	.59	1.12	.82	.80	1.16	1.27	.79	.60
23.0	1.21	.94	.62	1.13	.75	.71	1.04	1.17	.73	.43
24.0	1.11	.89	.67	1.11	.71	.66	.92	1.11	.70	.34
25.0	1.01	.86	.65	1.03	.70	.63	.81	1.04	.65	.25
26.0	.95	.80	.46	.91	.70	.62	.70	.97	.57	.18
27.0	.89	.67	.27	.79	.70	.61	.63	.89	.48	.19
28.0	.82	.53	.27	.65	.65	.58	.55	.78	.42	.23
29.0	.70	.42	.36	.50	.58	.56	.47	.65	.41	.18
30.0	.57	.36	.37	.36	.51	.51	.41	.52	.39	.05
31.0	.44	.31	.33	.25	.40	.45	.39	.38	.31	-.04
32.0	.31	.25	.36	.17	.29	.36	.37	.24	.22	-.07
33.0	.22	.17	.42	.14	.18	.29	.33	.10	.15	-.11
34.0	.15	.09	.33	.12	.13	.26	.28	-.02	.15	-.20
35.0	.11	.02	.14	.12	.10	.26	.23	-.10	.19	-.27
LAT.	32.7	33.9	36.1	36.6	36.9	38.9	39.4	40.1	40.7	41.1
LONG.	41.0	40.6	43.9	40.3	40.0	40.6	40.4	39.6	39.7	43.4
Detector	4	4	4	4	4	4	4	4	4	4

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0		10.00	10.18	9.86	10.56	10.60	10.89	10.05	9.99	10.27
1.0		9.71	9.79	9.49	10.15	10.30	10.62	9.66	9.77	9.96
2.0		9.37	9.39	9.10	9.71	9.92	10.28	9.27	9.52	9.63
3.0		9.00	8.93	8.63	9.21	9.50	9.85	8.84	9.24	9.24
4.0		8.55	8.41	8.09	8.67	9.06	9.31	8.32	8.90	8.76
5.0		7.99	7.81	7.53	8.06	8.53	8.71	7.74	8.37	8.17
6.0		7.31	7.14	6.92	7.33	7.88	8.00	7.10	7.56	7.46
7.0		6.57	6.44	6.28	6.55	7.12	7.19	6.37	6.60	6.67
8.0		5.86	5.73	5.65	5.73	6.27	6.27	5.63	5.54	5.88
9.0		5.14	5.01	5.02	4.95	5.33	5.35	4.90	4.53	5.10
10.0	4.76	4.44	4.31	4.38	4.21	4.36	4.52	4.20	3.71	4.37
11.0	3.75	3.78	3.66	3.80	3.57	3.46	3.81	3.57	3.10	3.71
12.0	3.20	3.20	3.12	3.27	3.05	2.77	3.29	3.03	2.63	3.16
13.0	2.71	2.73	2.71	2.81	2.63	2.33	2.90	2.61	2.34	2.72
14.0	2.46	2.34	2.38	2.44	2.32	2.05	2.56	2.29	2.12	2.36
15.0	2.27	2.04	2.12	2.16	2.05	1.83	2.25	2.01	1.93	2.07
16.0	2.16	1.80	1.87	1.92	1.78	1.66	1.97	1.75	1.76	1.83
17.0	1.89	1.60	1.64	1.72	1.52	1.54	1.76	1.48	1.61	1.62
18.0	1.57	1.42	1.45	1.52	1.30	1.43	1.59	1.21	1.39	1.42
19.0	1.39	1.21	1.27	1.33	1.15	1.31	1.42	.98	1.23	1.26
20.0	1.27	1.00	1.11	1.18	1.04	1.20	1.26	.79	1.24	1.09
21.0	1.17	.84	.96	1.06	.95	1.08	1.10	.65	1.28	.94
22.0	1.06	.73	.85	.92	.85	.98	1.00	.56	1.12	.80
23.0	.97	.63	.75	.80	.78	.89	.94	.48	.87	.71
24.0	.81	.54	.66	.71	.73	.77	.90	.39	.73	.64
25.0	.64	.44	.58	.66	.73	.67	.85	.31	.66	.58
26.0	.41	.35	.48	.65	.72	.57	.75	.25	.58	.52
27.0	.24	.24	.38	.65	.69	.48	.64	.22	.49	.50
28.0	.33	.16	.28	.63	.61	.41	.56	.20	.42	.51
29.0	.36	.13	.21	.60	.54	.31	.50	.19	.38	.48
30.0	.30	.16	.16	.57	.50	.20	.43	.18	.43	.40
31.0	.20	.25	.15	.54	.44	.11	.36	.17	.50	.30
32.0	.24	.33	.13	.51	.38	.04	.27	.15	.46	.21
33.0	.28	.38	.10	.46	.32	-.03	.20	.11	.32	.17
34.0	.13	.36	.05	.42	.28	-.10	.15	.08	.17	.16
35.0	.00	.33	-.00	.38	.23	-.15	.11	.03	.03	.16
LAT.	41.7	42.1	43.2	43.3	44.3	44.8	45.7	46.4	46.9	47.9
LONG.	104.2	40.9	40.7	40.0	40.1	41.9	41.7	41.0	47.0	43.1
Detector	4	4	4	4	4	4	4	4	4	4

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr								
0.0	10.02	10.10	10.19	10.49	9.09	8.67	9.20	10.18		9.25
1.0	9.92	9.86	9.81	10.19	8.80	8.45	9.01	9.92		8.99
2.0	9.74	9.55	9.37	9.84	8.49	8.22	8.77	9.55		8.67
3.0	9.49	9.16	8.83	9.39	8.14	7.92	8.41	9.06		8.32
4.0	8.97	8.71	8.21	8.91	7.74	7.52	7.92	8.45		7.93
5.0	8.17	8.13	7.49	8.34	7.24	7.03	7.28	7.74		7.52
6.0	7.17	7.47	6.71	7.57	6.62	6.44	6.53	7.01		7.07
7.0	6.13	6.75	5.91	6.65	5.92	5.80	5.78	6.25		6.57
8.0	5.16	6.00	5.14	5.72	5.16	5.15	5.02	5.48		6.00
9.0	4.29	5.21	4.38	4.88	4.43	4.47	4.32	4.64		5.36
10.0	3.57	4.48	3.73	4.20	3.80	3.79	3.67	3.98	3.98	4.73
11.0	2.99	3.82	3.22	3.63	3.28	3.19	3.12	3.54	3.60	4.09
12.0	2.57	3.27	2.84	3.12	2.81	2.74	2.70	3.20	3.08	3.49
13.0	2.22	2.82	2.55	2.69	2.44	2.42	2.35	2.83	2.53	2.94
14.0	1.94	2.41	2.30	2.26	2.12	2.17	2.08	2.53	2.19	2.48
15.0	1.88	2.08	2.08	1.83	1.80	1.96	1.83	2.25	2.05	2.14
16.0	1.83	1.83	1.86	1.57	1.50	1.76	1.63	1.97	1.75	1.89
17.0	1.59	1.63	1.65	1.45	1.24	1.60	1.49	1.77	1.53	1.70
18.0	1.30	1.45	1.43	1.39	1.02	1.46	1.31	1.64	1.35	1.52
19.0	1.04	1.30	1.21	1.32	.81	1.31	1.14	1.50	.99	1.36
20.0	.80	1.15	1.00	1.19	.64	1.14	.97	1.36	.78	1.19
21.0	.65	1.00	.81	1.00	.54	.92	.84	1.20	.71	1.01
22.0	.56	.82	.66	.84	.47	.72	.76	1.07	.63	.86
23.0	.41	.65	.55	.72	.41	.61	.73	.99	.41	.75
24.0	.36	.50	.47	.64	.40	.50	.70	.89	.20	.67
25.0	.40	.41	.44	.59	.42	.41	.64	.73	.29	.61
26.0	.37	.37	.42	.54	.42	.35	.56	.60	.47	.53
27.0	.25	.36	.41	.53	.42	.29	.48	.51	.51	.42
28.0	.23	.37	.42	.54	.42	.27	.40	.45	.40	.31
29.0	.32	.39	.45	.49	.41	.27	.33	.41	.24	.20
30.0	.27	.36	.48	.37	.38	.25	.28	.37	.22	.10
31.0	.12	.31	.50	.22	.30	.22	.27	.29	.26	.06
32.0	.05	.26	.44	.16	.19	.18	.29	.22	.26	.05
33.0	-.03	.22	.38	.17	.04	.18	.29	.23	.24	.06
34.0	-.15	.16	.32	.19	-.03	.17	.23	.22	.26	.09
35.0	-.15	.09	.29	.17	-.05	.15	.12	.14	.29	.13
LAT.	48.0	49.1	49.5	50.6	51.3	52.0	52.1	52.2	52.5	52.5
LONG.	45.1	41.8	42.8	101.8	43.8	45.5	45.7	100.9	96.5	44.4
Detector	4	4	4	4	4	4	4	4	4	4

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.84	10.67	10.12	9.03	9.78	9.27	8.32			9.25
1.0	10.79	10.46	10.02	8.98	9.74	8.79	8.17			9.30
2.0	10.61	10.18	9.69	8.82	9.59	8.26	7.95			9.15
3.0	10.31	9.80	9.15	8.52	9.30	7.70	7.68			8.76
4.0	9.77	9.39	8.42	8.08	8.87	7.20	7.36			8.14
5.0	9.03	8.91	7.62	7.50	8.18	6.78	6.97			7.39
6.0	7.99	8.35	6.78	6.81	7.22	6.39	6.54			6.68
7.0	6.83	7.74	5.82	6.04	6.09	5.94	6.01			5.94
8.0	5.71	7.09	4.92	5.23	4.97	5.39	5.37			5.25
9.0	4.79	6.43	4.25	4.48	4.18	4.76	4.69			4.75
10.0	4.22	5.80	3.67	3.81	3.71	4.10	3.99	3.83	4.23	4.29
11.0	3.62	5.16	3.09	3.24	3.32	3.52	3.38	3.46	3.72	3.78
12.0	3.07	4.48	2.67	2.76	2.97	3.07	2.90	2.92	3.19	3.34
13.0	2.68	3.87	2.36	2.43	2.75	2.69	2.52	2.70	2.75	3.01
14.0	2.18	3.37	2.13	2.19	2.42	2.35	2.24	2.38	2.53	2.66
15.0	1.80	2.95	2.01	1.99	2.00	2.04	2.03	2.16	2.35	2.32
16.0	1.63	2.59	1.90	1.81	1.64	1.76	1.81	2.04	2.06	2.03
17.0	1.57	2.23	1.73	1.62	1.37	1.52	1.56	1.74	1.76	1.80
18.0	1.53	1.91	1.53	1.44	1.13	1.37	1.35	1.50	1.56	1.65
19.0	1.37	1.67	1.30	1.31	.99	1.29	1.16	1.23	1.32	1.47
20.0	1.26	1.48	1.14	1.21	.86	1.18	.99	.97	1.03	1.30
21.0	1.03	1.35	1.05	1.10	.65	1.01	.86	.76	.82	1.14
22.0	.75	1.28	.97	.92	.53	.83	.77	.74	.81	.98
23.0	.66	1.25	.78	.74	.51	.66	.69	.66	.80	.89
24.0	.52	1.20	.51	.58	.41	.51	.63	.59	.84	.77
25.0	.40	1.07	.26	.43	.24	.39	.57	.39	.82	.65
26.0	.36	.93	.12	.35	.13	.31	.54	.25	.59	.64
27.0	.33	.73	.10	.32	.08	.26	.51	.14	.42	.63
28.0	.29	.56	.13	.31	.04	.25	.46	-.03	.27	.55
29.0	.33	.41	.17	.30	-.03	.25	.37	.04	.19	.39
30.0	.37	.33	.20	.28	-.17	.23	.24	.14	.16	.27
31.0	.39	.31	.20	.27	-.21	.21	.11	.32	.03	.11
32.0	.42	.33	.19	.28	-.05	.19	.01	.30	-.00	.00
33.0	.46	.33	.19	.26	.03	.17	-.06	.14	-.01	.07
34.0	.40	.32	.18	.19	.07	.15	-.11	.05	-.03	.18
35.0	.22	.31	.16	.08	.10	.15	-.14	.03	-.05	.22
LAT.	53.3	54.8	54.9	54.9	55.3	55.4	55.6	56.3	56.7	57.1
LONG.	52.9	50.4	98.1	47.5	61.7	49.5	48.2	80.3	94.3	90.8
Detector	4	4	4	4	4	4	4	4	4	4

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0		8.66	9.81	8.93	9.26	9.93	9.09	8.66	8.25	8.19
1.0		8.35	9.41	8.78	8.98	9.66	8.66	8.46	8.26	8.08
2.0		8.02	9.04	8.60	8.69	9.32	8.18	8.20	8.17	7.86
3.0		7.62	8.61	8.34	8.32	9.00	7.73	7.87	8.01	7.52
4.0		7.15	8.01	7.93	7.85	8.66	7.28	7.45	7.67	7.03
5.0		6.58	7.44	7.37	7.28	8.35	6.84	6.92	7.04	6.46
6.0		5.90	6.94	6.66	6.69	8.01	6.32	6.31	6.26	5.81
7.0		5.14	6.38	5.86	6.08	7.57	5.70	5.64	5.41	5.12
8.0		4.45	5.73	5.08	5.44	6.97	4.97	4.96	4.65	4.44
9.0		3.98	5.05	4.35	4.78	6.25	4.26	4.29	4.05	3.82
10.0	3.63	3.59	4.40	3.70	4.13	5.41	3.68	3.70	3.60	3.28
11.0	3.19	3.27	3.90	3.10	3.58	4.65	3.31	3.25	3.28	2.85
12.0	2.77	2.97	3.54	2.60	3.16	4.03	3.02	2.87	3.05	2.52
13.0	2.46	2.68	3.27	2.21	2.81	3.54	2.71	2.52	2.89	2.27
14.0	2.04	2.38	3.02	1.86	2.53	3.13	2.41	2.21	2.64	2.07
15.0	1.73	2.04	2.75	1.55	2.28	2.73	2.14	1.95	2.29	1.89
16.0	1.54	1.76	2.40	1.34	2.05	2.31	1.92	1.72	1.94	1.71
17.0	1.35	1.51	1.94	1.24	1.84	1.91	1.75	1.56	1.65	1.54
18.0	1.24	1.28	1.55	1.18	1.65	1.60	1.62	1.44	1.51	1.36
19.0	1.12	1.05	1.27	1.17	1.45	1.42	1.48	1.37	1.43	1.23
20.0	.84	.80	1.09	1.16	1.27	1.30	1.31	1.31	1.27	1.12
21.0	.63	.63	.97	1.11	1.09	1.22	1.11	1.20	1.13	1.02
22.0	.57	.52	.88	1.01	.92	1.20	.92	1.07	1.03	.90
23.0	.35	.48	.82	.88	.77	1.16	.78	.94	.96	.74
24.0	.22	.50	.76	.75	.65	1.09	.68	.80	.90	.60
25.0	.21	.56	.65	.60	.54	.99	.54	.65	.82	.48
26.0	.27	.61	.56	.41	.45	.86	.42	.49	.69	.42
27.0	.30	.62	.54	.28	.38	.70	.30	.38	.55	.34
28.0	.23	.57	.54	.23	.32	.57	.22	.30	.43	.26
29.0	.09	.49	.50	.24	.28	.47	.20	.25	.30	.15
30.0	-.08	.38	.45	.27	.22	.38	.28	.23	.19	.02
31.0	-.24	.31	.42	.28	.18	.27	.35	.24	.12	-.06
32.0	-.21	.28	.38	.27	.17	.14	.40	.23	.07	-.07
33.0	-.10	.24	.31	.27	.19	.09	.35	.20	.03	-.04
34.0	-.08	.17	.21	.27	.22	.13	.29	.15	.05	-.01
35.0	-.13	.04	.18	.28	.25	.21	.23	.09	.17	-.01
LAT.	58.0	58.3	58.4	58.4	58.4	59.1	59.5	59.9	60.4	60.5
LONG.	66.8	92.5	82.9	57.7	53.8	64.1	89.1	57.5	81.0	61.5
Detector	4	4	4	4	4	4	4	4	4	4

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr				
0.0	8.97	7.53	8.18	8.52	7.59
1.0	8.81	7.30	8.07	8.36	7.36
2.0	8.56	7.07	7.91	8.10	7.13
3.0	8.23	6.77	7.65	7.76	6.88
4.0	7.82	6.45	7.23	7.33	6.60
5.0	7.39	6.07	6.69	6.79	6.28
6.0	6.87	5.61	6.06	6.21	5.88
7.0	6.13	5.09	5.46	5.57	5.42
8.0	5.26	4.55	4.86	4.93	4.90
9.0	4.48	4.01	4.23	4.34	4.33
10.0	3.82	3.52	3.64	3.82	3.83
11.0	3.30	3.12	3.14	3.37	3.37
12.0	2.87	2.81	2.77	2.97	2.98
13.0	2.61	2.56	2.46	2.62	2.63
14.0	2.41	2.32	2.20	2.31	2.32
15.0	2.21	2.10	1.97	2.07	2.04
16.0	2.00	1.89	1.76	1.84	1.80
17.0	1.81	1.66	1.56	1.66	1.56
18.0	1.65	1.47	1.36	1.48	1.35
19.0	1.53	1.28	1.19	1.33	1.18
20.0	1.40	1.11	1.04	1.22	1.06
21.0	1.23	.96	.93	1.12	.99
22.0	1.04	.84	.83	1.05	.94
23.0	.91	.75	.73	.96	.89
24.0	.82	.64	.65	.85	.83
25.0	.72	.55	.59	.75	.78
26.0	.63	.49	.55	.66	.75
27.0	.55	.46	.49	.60	.72
28.0	.49	.43	.41	.55	.70
29.0	.45	.41	.33	.48	.67
30.0	.40	.38	.28	.40	.60
31.0	.35	.38	.26	.32	.49
32.0	.32	.41	.26	.23	.38
33.0	.31	.43	.27	.17	.31
34.0	.38	.42	.29	.11	.27
35.0	.45	.40	.34	.06	.23
LAT.	60.5	61.2	61.4	61.5	61.6
LONG.	68.1	81.3	71.2	66.6	77.7
Detector	4	4	4	4	4

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0		9.95	9.91	10.33	10.21	10.00	10.30	9.97	10.32	11.18
1.0		9.99	9.80	10.12	9.89	9.88	10.15	9.78	10.19	10.98
2.0		9.97	9.64	9.90		9.76	10.02	9.56	10.04	10.75
3.0		9.85	9.48	9.63		9.63	9.88	9.33	9.84	10.48
4.0	9.91	9.58	9.18	9.31		9.41	9.62	9.14	9.59	10.22
5.0	9.46	9.22	8.78	8.90		9.10	9.20	8.88	9.23	9.91
6.0	8.90	8.80	8.24	8.38		8.69	8.70	8.53	8.74	9.54
7.0	8.19	8.07	7.55	7.71		8.10	8.03	8.02	8.11	9.10
8.0	7.28	7.09	6.85	6.93		7.17	7.19	7.34	7.34	8.59
9.0	6.33	6.05	6.06	6.14		6.04	6.29	6.53	6.48	8.00
10.0	5.38	4.88	5.20	5.34		4.76	5.39	5.64	5.58	7.34
11.0	4.43	3.90	4.40	4.54		3.65	4.49	4.83	4.61	6.52
12.0	3.61	3.23	3.63	3.83	3.22	2.97	3.68	4.07	3.72	5.67
13.0	2.98	2.74	3.01	3.22	2.76	2.65	3.12	3.40	2.98	4.83
14.0	2.66	2.32	2.57	2.77	2.39	2.39	2.76	2.80	2.48	4.00
15.0	2.43	1.98	2.21	2.45	2.10	2.20	2.50	2.36	2.14	3.25
16.0	2.19	1.78	1.87	2.19	1.85	2.03	2.29	2.08	1.84	2.69
17.0	1.97	1.68	1.65	2.04	1.67	1.82	2.12	1.89	1.52	2.30
18.0	1.82	1.55	1.49	1.83	1.51	1.53	1.94	1.71		2.02
19.0	1.62	1.47	1.33	1.60	1.34	1.34	1.75	1.54		1.79
20.0	1.41	1.27	1.15	1.38	1.16	1.30	1.50	1.40		1.61
21.0	1.22	1.02	1.01	1.22	1.01	1.36	1.30	1.29		1.50
22.0	1.05	.90	.91	1.10	.89	1.22	1.18	1.20		1.42
23.0	.89	.81	.80	1.01	.82	1.07	1.09	1.13		1.31
24.0	.80	.77	.68	.98	.76	.99	.95	1.02		1.18
25.0	.72	.65	.57	.98	.68	.84	.84	.86		1.09
26.0	.67	.44	.43	.81	.59	.69	.84	.67	.55	1.05
27.0	.63	.33	.39	.52	.53	.59	.89	.55	.63	1.05
28.0	.61	.30	.36	.32	.56	.51	.94	.50	.54	1.02
29.0	.59	.33	.38	.26	.59	.53	.88	.51	.45	.99
30.0	.58	.30	.46	.32	.57	.50	.77	.51	.34	.93
31.0	.60	.23	.43	.44	.51	.39	.65	.53	.29	.88
32.0	.56	.18	.39	.53	.41	.18	.60	.57	.32	.77
33.0	.50	.17	.41	.58	.33	.14	.57	.59	.43	.68
34.0	.48	.07	.35	.54	.22	.07	.47	.53	.47	.63
35.0	.40	-.09	.25	.38	.14	.08	.42	.43	.41	.60
LAT.	18.0	18.4	20.4	20.4	20.7	21.7	21.7	22.1	24.3	24.7
LONG.	50.6	53.5	49.3	48.4	47.0	50.5	45.9	46.3	44.4	45.3
Detector	5	5	5	5	5	5	5	5	5	5

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr										
0.0	10.52	10.20		8.82	9.29	8.53	7.97		10.06	
1.0	10.32	10.16		8.71	9.11	8.54	8.16		9.91	
2.0	10.08	10.07		8.56	8.94	8.52	8.37		9.71	
3.0	9.76	10.02		8.39	8.78	8.49	8.46		9.42	
4.0	9.40	9.94		8.14	8.60	8.42	8.37		9.05	
5.0	8.97	9.67		7.80	8.37	8.28	7.96		8.62	
6.0	8.49	9.22		7.39	8.04	8.05	7.45	7.80	8.10	8.67
7.0	7.99	8.56		6.93	7.63	7.64	6.95	7.49	7.55	8.14
8.0	7.43	7.59		6.40	7.12	7.05	6.38	6.96	6.93	7.53
9.0	6.74	6.43		5.78	6.47	6.30	5.72	6.25	6.18	6.87
10.0	5.91	5.22		5.11	5.71	5.48	4.98	5.40	5.35	6.12
11.0	5.07	4.10	4.62	4.37	4.93	4.64	4.22	4.47	4.47	5.31
12.0	4.27	3.27	3.80	3.66	4.18	3.90	3.59	3.61	3.69	4.44
13.0	3.53	2.73	3.17	3.02	3.55	3.25	3.15	2.97	3.05	3.66
14.0	2.96	2.33	2.72	2.54	3.02	2.72	2.76	2.45	2.58	3.10
15.0	2.57	2.02	2.40	2.22	2.60	2.33	2.41	2.08	2.25	2.68
16.0	2.29	1.88	2.19	2.03	2.25	2.04	2.16	1.80	1.99	2.39
17.0	2.04	1.77	2.01	1.87	1.99	1.82	2.00	1.61	1.76	2.15
18.0	1.86	1.62	1.83	1.71	1.80	1.64	1.85	1.48	1.55	1.93
19.0	1.71	1.56	1.65	1.51	1.67	1.50	1.68	1.31	1.35	1.74
20.0	1.55	1.50	1.47	1.32	1.60	1.38	1.46	1.19	1.18	1.57
21.0	1.37	1.32	1.32	1.15	1.52	1.24	1.23	1.15	1.06	1.39
22.0	1.18	1.12	1.23	1.03	1.42	1.11	1.07	1.14	.94	1.23
23.0	1.00	.95	1.17	.92	1.31	1.00	.94	1.10	.82	1.10
24.0	.81	.79	1.08	.83	1.22	.87	.86	1.05	.70	.97
25.0	.63	.59	.96	.77	1.13	.72	.86	.99	.56	.85
26.0	.46	.55	.82	.70	1.04	.60	.94	.93	.43	.75
27.0	.38	.51	.70	.64	.98	.50	.88	.86	.34	.70
28.0	.35	.39	.61	.53	.90	.42	.79	.75	.29	.66
29.0	.35	.30	.57	.42	.83	.36	.70	.63	.31	.62
30.0	.33	.23	.53	.36	.73	.30	.63	.54	.36	.58
31.0	.37	.18	.51	.28	.61	.26	.64	.45	.45	.56
32.0	.41	.14	.47	.22	.49	.21	.53	.45	.51	.55
33.0	.36	.09	.47	.16	.42	.18	.45	.51	.51	.58
34.0	.27	.10	.48	.10	.37	.21	.44	.58	.47	.60
35.0	.14	.10	.45	.05	.36	.26	.39	.57	.38	.57
LAT.	26.0	26.0	26.7	28.4	29.2	29.5	31.2	31.6	31.7	32.5
LONG.	43.5	49.4	43.8	42.6	42.5	41.6	43.7	42.5	40.9	40.7
Detector	5	5	5	5	5	5	5	5	5	5

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.47	10.59	9.44	10.38	10.32	9.99	9.74		9.93	9.71
1.0	10.29	10.39	9.29	10.17	10.27	9.78	9.46		9.63	9.47
2.0	10.06	10.20	9.18	9.92	10.17	9.50	9.13		9.28	9.20
3.0	9.78	10.02	9.09	9.61	10.02	9.14	8.75		8.86	8.88
4.0	9.48	9.80	8.86	9.26	9.78	8.71	8.34		8.40	8.55
5.0	9.10	9.51	8.51	8.86	9.48	8.29	7.96		7.92	8.14
6.0	8.66	9.14	8.08	8.39	9.07	7.84	7.55		7.46	7.66
7.0	8.18	8.69	7.59	7.85	8.59	7.28	7.17		7.01	7.11
8.0	7.58	8.17	6.86	7.20	8.01	6.62	6.77		6.51	6.57
9.0	6.87	7.56	5.95	6.43	7.36	5.91	6.29		5.98	6.02
10.0	6.07	6.84	4.92	5.64	6.59	5.20	5.71	5.43	5.36	5.44
11.0	5.22	5.99	3.97	4.88	5.71	4.56	5.05	4.26	4.74	4.76
12.0	4.39	5.07	3.25	4.15	4.83	3.93	4.39	3.25	4.13	4.00
13.0	3.63	4.19	2.78	3.51	3.99	3.33	3.75	2.90	3.54	3.28
14.0	2.93	3.45	2.47	2.96	3.27	2.79	3.17	2.52	3.02	2.71
15.0	2.39	2.91	2.24	2.51	2.72	2.34	2.72	2.27	2.59	2.28
16.0	1.98	2.54	2.09	2.16	2.34	2.02	2.36	2.04	2.27	1.97
17.0	1.72	2.27	1.97	1.85	2.09	1.75	2.09	1.74	2.09	1.73
18.0	1.58	2.06	1.81	1.61	1.89	1.53	1.86	1.66	1.96	1.54
19.0	1.50	1.86	1.58	1.46	1.70	1.36	1.67	1.55	1.84	1.38
20.0	1.38	1.66	1.27	1.34	1.59	1.25	1.51	1.24	1.69	1.24
21.0	1.21	1.50	1.03	1.24	1.46	1.21	1.34	1.05	1.48	1.12
22.0	1.02	1.37	.91	1.11	1.33	1.20	1.19	.80	1.26	1.03
23.0	.82	1.23	.82	.99	1.17	1.15	1.08	.69	1.06	.97
24.0	.66	1.10	.68	.85	1.01	1.03	1.01	.90	.90	.93
25.0	.54	.98	.50	.70	.90	.87	.97	.97	.77	.87
26.0	.46	.89	.37	.60	.83	.72	.91	.75	.71	.76
27.0	.41	.83	.33	.53	.77	.61	.86	.45	.68	.62
28.0	.37	.75	.29	.45	.68	.54	.80	.41	.68	.49
29.0	.36	.67	.22	.40	.60	.49	.72	.44	.71	.36
30.0	.36	.66	.21	.34	.51	.42	.64	.63	.72	.26
31.0	.40	.68	.22	.31	.42	.34	.55	.51	.70	.17
32.0	.39	.68	.18	.35	.35	.30	.49	.34	.67	.11
33.0	.36	.66	.10	.37	.30	.28	.46	.31	.60	.06
34.0	.32	.60	.05	.40	.25	.26	.46	.30	.51	.04
35.0	.26	.53	.13	.40	.22	.22	.45	.24	.44	.06
LAT.	33.3	34.5	36.3	37.2	37.4	39.4	40.0	40.2	40.7	41.3
LONG.	40.8	40.4	43.9	40.2	39.9	40.7	40.4	104.0	39.6	39.8
Detector	5	5	5	5	5	5	5	5	5	5

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.58	10.46	10.63	10.51	10.77	10.84	10.45		9.49	10.40
1.0	10.54	10.13	10.35	10.20	10.65	10.55	10.26		9.21	10.23
2.0	10.40	9.87	10.00	9.84	10.43	10.19	10.02	10.16	8.98	9.99
3.0	10.14	9.58	9.63	9.44	10.12	9.76	9.68	9.86	8.94	9.67
4.0	9.81	9.23	9.24	9.01	9.69	9.30	9.30	9.51	8.84	9.26
5.0	9.35	8.79	8.81	8.53	9.16	8.77	8.83	9.02	8.59	8.74
6.0	8.71	8.21	8.29	7.98	8.54	8.20	8.30	8.39	8.20	8.12
7.0	7.83	7.59	7.65	7.36	7.82	7.55	7.70	7.66	7.66	7.40
8.0	6.78	6.87	6.88	6.71	7.05	6.79	6.99	6.87	6.80	6.57
9.0	5.69	6.11	6.07	6.07	6.21	5.95	6.21	6.02	5.78	5.69
10.0	4.69	5.32	5.26	5.45	5.32	5.12	5.39	5.16	4.66	4.82
11.0	3.82	4.54	4.49	4.83	4.44	4.34	4.60	4.30	3.78	4.08
12.0	3.23	3.84	3.79	4.21	3.68	3.64	3.90	3.62	3.26	3.48
13.0	2.84	3.22	3.17	3.60	3.08	3.08	3.30	3.05	2.87	3.01
14.0	2.48	2.67	2.72	3.04	2.61	2.65	2.83	2.62	2.55	2.68
15.0	2.06	2.23	2.38	2.57	2.24	2.32	2.45	2.31	2.21	2.44
16.0	1.71	1.87	2.14	2.20	1.92	2.05	2.13	2.04	1.91	2.23
17.0	1.47	1.65	1.91	1.91	1.66	1.80	1.86	1.83	1.67	2.04
18.0	1.33	1.47	1.67	1.71	1.43	1.61	1.64	1.67	1.47	1.83
19.0	1.25	1.33	1.42	1.56	1.21	1.41	1.44	1.52	1.25	1.62
20.0	1.23	1.24	1.19	1.44	1.02	1.22	1.26	1.39	1.05	1.44
21.0	1.12	1.13	1.03	1.33	.88	1.07	1.07	1.24	.88	1.30
22.0	.97	1.04	.92	1.21	.79	.94	.89	1.12	.77	1.19
23.0	.89	.95	.85	1.07	.66	.84	.73	.99	.73	1.10
24.0	.82	.86	.78	.88	.45	.75	.59	.87	.70	.99
25.0	.70	.79	.75	.70		.64	.46	.75	.65	.89
26.0	.57	.74	.73	.56		.51	.35	.61	.51	.80
27.0	.41	.68	.69	.45		.37	.25	.47	.40	.72
28.0	.29	.60	.62	.37		.26	.17	.33	.44	.66
29.0	.18	.47	.53	.30		.20	.15	.21	.50	.59
30.0	.03	.35	.45	.24		.15	.20	.16	.47	.49
31.0	-.10	.25	.39	.19		.14	.29	.13	.39	.36
32.0	-.16	.18	.33	.17		.17	.31	.11	.34	.25
33.0	-.11	.15	.29	.15		.23	.31	.07	.33	.18
34.0	.01	.15	.25	.15		.30	.29	.01	.36	.17
35.0	.12	.15	.20	.17		.32	.26	-.05	.32	.20
LAT.	41.5	42.7	43.8	43.9	44.8	45.0	45.9	46.8	47.7	48.3
LONG.	43.7	41.0	40.8	40.1	42.1	40.3	42.1	41.2	47.7	43.5
Detector	5	5	5	5	5	5	5	5	5	5

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	9.22	10.39	10.32	10.00				9.14	8.84	8.64
1.0	9.03	10.15	10.12	9.90				9.10	8.67	8.53
2.0	8.85	9.85	9.98	9.78				8.97	8.52	8.40
3.0	8.75	9.54	9.82	9.58				8.71	8.35	8.26
4.0	8.54	9.19	9.54	9.26				8.32	8.10	8.11
5.0	8.07	8.81	9.12	8.84		9.39		7.85	7.77	7.86
6.0	7.47	8.31	8.66	8.31		8.84		7.37	7.39	7.50
7.0	6.76	7.72	8.04	7.68		8.13		6.82	6.97	7.08
8.0	5.91	7.07	7.14	6.94		7.33		6.19	6.44	6.60
9.0	4.92	6.37	6.10	6.14		6.48	5.69	5.47	5.81	6.03
10.0	4.04	5.65	4.99	5.30	4.35	5.57	5.00	4.66	5.08	5.40
11.0	3.33	4.90	4.06	4.46	4.06	4.63	4.35	3.84	4.35	4.73
12.0	2.77	4.19	3.40	3.72	3.61	3.70	3.72	3.17	3.67	4.07
13.0	2.40	3.55	3.01	3.10	3.31	2.97	3.18	2.74	3.06	3.47
14.0	2.13	3.02	2.74	2.64	2.78	2.46	2.74	2.48	2.55	2.96
15.0	1.99	2.58	2.47	2.28	2.36	2.13	2.42	2.28	2.12	2.52
16.0	1.92	2.29	2.18	1.97	2.05	1.93	2.17	2.12	1.79	2.18
17.0	1.83	2.05	1.89	1.75	1.87	1.77	1.96	2.01	1.53	1.89
18.0	1.63	1.85	1.58	1.57	1.85	1.57	1.75	1.85	1.34	1.66
19.0	1.38	1.67	1.33	1.41	1.74	1.36	1.53	1.66	1.18	1.47
20.0	1.06	1.49	1.11	1.26	1.52	1.26	1.31	1.48	1.04	1.33
21.0	.82	1.28	.88	1.12	1.21	1.17	1.13	1.32	.90	1.19
22.0	.62	1.12	.70	.99	1.02	1.06	1.01	1.15	.76	1.08
23.0	.60	.97	.54	.91	.93	.95	.93	.99	.69	.96
24.0	.64	.83	.42	.83	.85	.85	.86	.81	.65	.85
25.0	.68	.72	.40	.76	.81	.72	.79	.64	.64	.77
26.0	.65	.62	.46	.70	.85	.62	.69	.49	.61	.71
27.0	.57	.54	.53	.64	.72	.56	.63	.37	.55	.64
28.0	.51	.48	.57	.61	.52	.55	.58	.31	.44	.59
29.0	.50	.42	.59	.56	.37	.53	.51	.25	.33	.54
30.0	.44	.36	.52	.48	.30	.53	.41	.20	.25	.48
31.0	.23	.29	.39	.40	.23	.51	.31	.16	.19	.41
32.0	.07	.22	.30	.31	.26	.51	.27	.12	.14	.34
33.0	.09	.15	.25	.22	.30	.50	.23	.07	.07	.26
34.0	.15	.11	.19	.17	.38	.38	.21	.05	.01	.22
35.0	.16	.08	.13	.15	.45	.18	.17	.06	-.06	.18
LAT.	49.1	49.6	49.6	50.1	51.2	51.4	51.8	52.0	52.7	53.0
LONG.	46.0	42.2	102.5	43.2	97.7	101.5	45.9	44.6	46.4	45.0
Detector	5	5	5	5	5	5	5	5	5	5

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.44	10.09	10.75		9.66	9.71		9.19	9.89	8.98
1.0	10.33	9.95	10.69		9.69	9.31		8.75	9.66	8.89
2.0	10.14	9.74	10.59		9.67	8.79		8.28	9.40	8.90
3.0	9.79	9.39	10.42		9.49	8.18		7.81	9.07	8.95
4.0	9.30	8.88	10.21		9.16	7.65		7.31	8.65	8.65
5.0	8.66	8.15	9.99		8.59	7.23		6.85	8.13	8.16
6.0	7.98	7.33	9.70		7.85	6.89		6.43	7.53	7.41
7.0	7.17	6.36	9.31		6.88	6.49		6.04	6.88	6.38
8.0	6.27	5.40	8.79		5.77	6.00		5.63	6.20	5.29
9.0	5.33	4.69	8.22		4.82	5.34		5.16	5.49	4.46
10.0	4.50	4.21	7.58	4.29	4.00	4.67		4.66	4.80	3.89
11.0	3.80	3.78	6.79	3.82	3.38	3.98		4.11	4.14	3.45
12.0	3.24	3.36	5.87	3.36	2.91	3.33			3.51	3.18
13.0	2.81	2.99	4.94	3.03	2.49	2.82			2.93	2.90
14.0	2.35	2.69	4.10	2.71	2.11	2.49	1.95		2.48	2.59
15.0	2.04	2.39	3.41	2.44	1.81	2.25	1.73		2.16	2.39
16.0	1.84	2.02	2.91	2.08	1.68	2.08	1.60		1.93	2.25
17.0	1.64	1.69	2.56	1.82	1.64	1.95	1.31		1.74	2.09
18.0	1.52	1.43	2.33	1.71	1.48	1.87	1.17		1.56	1.87
19.0	.49	1.26	2.16	1.57	1.31	1.77	1.12		1.38	1.72
20.0		1.16	1.97	1.37	1.10	1.64	1.16		1.22	1.52
21.0		1.08	1.74	1.22	.87	1.45	1.11		1.08	1.36
22.0		.95	1.49	1.03	.61	1.28	1.02		.93	1.15
23.0		.81	1.24	.91	.45	1.14	.82		.79	.96
24.0		.73	1.03	.89	.37	1.03	.70		.67	.85
25.0		.69	.88	.78	.29	.95	.56		.57	.84
26.0	.63	.61	.76	.62	.12	.85	.42	.49	.49	.79
27.0	.60	.49	.68	.57	.08	.72	.41	.37	.42	.66
28.0	.44	.36	.60	.46	.09	.60	.25	.25	.36	.62
29.0	.35	.27	.55	.29	.09	.52	.23	.18	.30	.61
30.0	.32	.27	.50	.28	.11	.46	.33	.15	.22	.50
31.0	.22	.27	.48	.26	.11	.40	.34	.13	.10	.39
32.0	.03	.21	.48	.21	.10	.29	.29	.11	-.00	.34
33.0	-.06	.09	.46	.19	.09	.20	.12	.08	-.08	.22
34.0	-.08	.04	.44	.15	.05	.15	-.05	.09	-.12	.10
35.0	-.02	.00	.40	.12	-.03	.17	-.06	.07	-.13	.10
LAT.	53.8	54.2	55.3	55.6	55.6	55.7	55.7	55.9	55.9	56.2
LONG.	54.5	99.3	51.4	96.4	63.5	48.6	83.0	49.0	50.4	92.8
Detector	5	5	5	5	5	5	5	5	5	5

TABLE XIV.- Continued

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	8.67	10.50		9.04	9.41	8.71	9.50	8.13	9.07	8.88
1.0	8.44	10.40		8.82	9.23	8.52	9.35	7.82	8.91	8.72
2.0	8.18	10.21		8.58	9.02	8.38	9.13	7.56	8.72	8.47
3.0	7.92	9.96		8.32	8.75	8.22	8.88	7.29	8.46	8.18
4.0	7.67	9.63		8.04	8.46	8.01	8.64	6.97	8.14	7.86
5.0	7.39	9.12		7.71	8.12	7.65	8.36	6.68	7.73	7.51
6.0	7.00	8.42		7.31	7.73	7.15	8.01	6.39	7.25	7.04
7.0	6.53	7.81		6.79	7.25	6.54	7.58	5.92	6.72	6.45
8.0	5.97	7.19		6.14	6.67	5.87	7.06	5.33	6.14	5.80
9.0	5.37	6.38		5.45	5.99	5.14	6.50	4.69	5.56	5.08
10.0	4.76	5.44	3.62	4.72	5.28	4.42	5.90	3.97	4.97	4.37
11.0	4.16	4.60	3.14	4.01	4.57	3.83	5.33	3.40	4.42	3.79
12.0	3.61	3.86	2.84	3.38	3.86	3.37	4.74	2.97	3.90	3.35
13.0	3.16	3.23	2.52	2.89	3.23	2.98	4.10	2.59	3.40	3.01
14.0	2.81	2.77	2.10	2.48	2.70	2.62	3.48	2.24	2.97	2.70
15.0	2.48	2.49	1.77	2.17	2.29	2.31	2.94	1.95	2.62	2.37
16.0	2.15	2.27	1.80	1.94	2.03	2.06	2.48	1.66	2.30	2.01
17.0	1.83	2.11	1.64	1.75	1.86	1.84	2.11	1.39	2.06	1.71
18.0	1.57	1.98	1.43	1.56	1.73	1.61	1.86	1.16	1.87	1.50
19.0	1.33	1.78	1.23	1.39	1.60	1.39	1.64	.99	1.71	1.27
20.0	1.13	1.57	1.01	1.21	1.46	1.25	1.48	.94	1.55	1.04
21.0	1.01	1.39	.75	1.06	1.34	1.16	1.32	.92	1.39	.81
22.0	.87	1.24	.61	.94	1.22	1.13	1.17	.91	1.23	.72
23.0	.73	1.13	.57	.85	1.09	1.06	1.01	.78	1.06	.65
24.0	.60	1.08	.47	.77	.97	.99	.87	.63	.88	.58
25.0	.50	.99	.49	.67	.85	.89	.74	.50	.71	.52
26.0	.43	.85	.44	.55	.71	.79	.62	.43	.55	.44
27.0	.33	.70	.35	.45	.59	.71	.55	.34	.41	.36
28.0	.23	.57	.28	.36	.49	.64	.54	.32	.31	.30
29.0	.16	.49	.24	.30	.41	.58	.52	.31	.24	.29
30.0	.13	.41	.18	.24	.36	.51	.51	.29	.21	.32
31.0	.15	.40	.13	.19	.31	.45	.46	.24	.21	.33
32.0	.17	.44	.05	.15	.25	.35	.39	.21	.25	.33
33.0	.20	.49	.02	.13	.17	.26	.31	.20	.27	.31
34.0	.23	.48	.04	.11	.09	.18	.22	.16	.27	.27
35.0	.25	.43	.04	.07	.05	.13	.18	.10	.25	.20
LAT.	57.7	58.0	58.1	58.8	58.8	59.1	59.3	60.0	60.1	60.7
LONG.	93.8	84.8	70.0	59.3	55.0	90.6	65.8	83.5	58.6	70.2
Detector	5	5	5	5	5	5	5	5	5	5

TABLE XIV.- Concluded

MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr				
0.0	8.17	7.61	7.96	7.73	8.82
1.0	8.01	7.47	7.76	7.64	8.63
2.0	7.83	7.31	7.55	7.51	8.43
3.0	7.65	7.09	7.29	7.30	8.18
4.0	7.42	6.79	6.97	7.04	7.83
5.0	7.07	6.41	6.61	6.74	7.41
6.0	6.57	6.00	6.15	6.40	6.90
7.0	5.94	5.56	5.63	6.01	6.33
8.0	5.25	5.09	5.11	5.58	5.74
9.0	4.56	4.61	4.59	5.13	5.12
10.0	3.96	4.09	4.08	4.66	4.51
11.0	3.47	3.58	3.61	4.16	3.95
12.0	3.10	3.10	3.18	3.63	3.48
13.0	2.78	2.65	2.77	3.15	3.09
14.0	2.50	2.27	2.38	2.76	2.77
15.0	2.23	1.98	2.03	2.43	2.49
16.0	1.95	1.74	1.72	2.13	2.23
17.0	1.68	1.55	1.48	1.88	1.96
18.0	1.45	1.38	1.28	1.65	1.73
19.0	1.23	1.20	1.15	1.43	1.50
20.0	1.04	1.02	1.05	1.25	1.31
21.0	.87	.86	.93	1.06	1.13
22.0	.71	.77	.82	.90	.98
23.0	.58	.68	.72	.76	.85
24.0	.48	.58	.63	.69	.76
25.0	.39	.52	.54	.66	.67
26.0	.32	.48	.44	.61	.58
27.0	.25	.43	.35	.50	.49
28.0	.20	.39	.27	.39	.39
29.0	.17	.35	.24	.29	.33
30.0	.16	.28	.24	.22	.26
31.0	.15	.20	.19	.18	.20
32.0	.15	.14	.13	.18	.14
33.0	.15	.09	.06	.20	.08
34.0	.17	.06	.01	.23	.05
35.0	.17	.03	.00	.24	.06
LAT.	60.8	61.0	61.4	61.5	61.6
LONG.	63.1	82.9	73.0	79.5	68.2
Detector	5	5	5	5	5

TABLE XV

AVERAGE MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (December 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0		10.75	10.50	10.60	10.22	10.68	10.45	10.16	10.40	10.83
1.0		10.71	10.42	10.32	10.15	10.58	10.26	10.05	10.22	10.68
2.0		10.66	10.28	10.06	10.06	10.47	9.99	9.89	10.03	10.46
3.0		10.52	10.01	9.61	9.86	10.25	9.65	9.65	9.78	10.20
4.0	10.22	10.25	9.62	9.10	9.52	9.89	9.25	9.39	9.46	9.92
5.0	9.80	9.81	9.11	8.45	9.05	9.37	8.73	9.15	9.00	9.61
6.0	9.23	9.23	8.50	7.66	8.43	8.74	8.08	8.76	8.45	9.23
7.0	8.45	8.40	7.71	6.75	7.69	7.99	7.33	8.18	7.77	8.73
8.0	7.48	7.29	6.81	5.82	6.78	7.06	6.51	7.35	6.97	8.11
9.0	6.41	6.05	5.82	4.89	5.75	6.06	5.62	6.25	6.11	7.35
10.0	5.31	4.83	4.80	4.02	4.69	5.07	4.70	5.01	5.24	6.49
11.0	4.28	3.79	3.91	3.32	3.75	4.16	3.88	3.93	4.36	5.58
12.0	3.44	2.99	3.22	2.92	3.05	3.39	3.21	3.12	3.53	4.71
13.0	2.83	2.48	2.69	2.55	2.55	2.83	2.71	2.57	2.90	3.96
14.0	2.42	2.13	2.30	2.24	2.15	2.48	2.34	2.25	2.48	3.32
15.0	2.15	1.87	2.04	1.97	1.86	2.24	2.09	2.04	2.18	2.81
16.0	1.96	1.65	1.88	1.71	1.64	2.03	1.89	1.83	1.93	2.39
17.0	1.76	1.46	1.74	1.50	1.45	1.88	1.69	1.62	1.71	2.06
18.0	1.54	1.32	1.56	1.34	1.27	1.72	1.48	1.44	1.58	1.82
19.0	1.40	1.24	1.38	1.21	1.12	1.53	1.31	1.31	1.42	1.62
20.0	1.32	1.10	1.22	1.10	.95	1.32	1.16	1.18	1.24	1.45
21.0	1.18	.91	1.08	.97	.77	1.12	1.03	1.04	1.08	1.32
22.0	.97	.74	.96	.86	.64	1.00	.92	.89	.93	1.19
23.0	.78	.60	.87	.78	.58	.92	.83	.79	.80	1.05
24.0	.67	.47	.79	.70	.56	.80	.72	.66	.71	.96
25.0	.61	.37	.75	.61	.55	.69	.59	.55	.65	.91
26.0	.59	.26	.67	.51	.50	.65	.48	.50	.58	.85
27.0	.55	.18	.54	.42	.40	.63	.40	.43	.54	.79
28.0	.44	.14	.43	.36	.31	.57	.38	.40	.45	.72
29.0	.32	.13	.37	.33	.25	.47	.38	.40	.40	.66
30.0	.26	.11	.32	.31	.19	.37	.37	.32	.35	.60
31.0	.24	.06	.30	.27	.13	.35	.36	.23	.30	.55
32.0	.22	.04	.30	.21	.09	.36	.36	.14	.24	.46
33.0	.19	.03	.27	.16	.10	.38	.34	.12	.22	.36
34.0	.18	.01	.22	.13	.08	.37	.31	.14	.19	.32
35.0	0.00	-.04	.15	.13	.02	.32	.24		.15	.33
LAT.	17.3	17.6	19.7	19.9	19.9	20.8	21.2	21.3	23.6	23.9
LONG.	52.2	55.6	50.3	48.5	50.9	47.8	47.6	51.8	45.8	46.3

TABLE XV.- Continued

AVERAGE MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.47	10.56		10.15	10.45	10.13	9.70	9.48		
1.0	10.29	10.43		10.02	10.24	9.98	9.69	9.45		
2.0	10.08	10.29		9.85	9.99	9.79	9.66	9.34		
3.0	9.80	10.11		9.61	9.71	9.55	9.60	9.14		
4.0	9.45	9.83		9.30	9.36	9.23	9.46	8.82		
5.0	9.01	9.47		8.88	8.93	8.84	9.15	8.39		
6.0	8.48	8.96		8.33	8.39	8.33	8.67	7.85	7.79	8.21
7.0	7.89	8.26		7.67	7.76	7.72	7.98	7.23	7.30	7.63
8.0	7.20	7.35		6.91	7.04	6.99	7.08	6.51	6.67	6.93
9.0	6.41	6.26		6.06	6.25	6.14	6.08	5.70	5.93	6.12
10.0	5.55	5.09		5.18	5.40	5.24	5.10	4.88	5.10	5.24
11.0	4.72	3.96	4.51	4.32	4.58	4.36	4.23	4.07	4.24	4.38
12.0	3.94	3.16	3.69	3.58	3.83	3.57	3.53	3.40	3.48	3.61
13.0	3.28	2.64	3.08	2.98	3.21	2.96	3.05	2.85	2.89	3.00
14.0	2.75	2.31	2.66	2.52	2.74	2.49	2.69	2.44	2.44	2.55
15.0	2.36	2.08	2.32	2.19	2.41	2.15	2.42	2.11	2.14	2.21
16.0	2.07	1.86	2.02	1.95	2.15	1.92	2.24	1.84	1.91	1.94
17.0	1.82	1.64	1.79	1.77	1.96	1.72	2.05	1.62	1.73	1.71
18.0	1.62	1.41	1.59	1.61	1.80	1.55	1.85	1.42	1.57	1.52
19.0	1.46	1.25	1.40	1.45	1.65	1.40	1.67	1.26	1.40	1.35
20.0	1.30	1.15	1.23	1.30	1.52	1.28	1.49	1.13	1.25	1.19
21.0	1.15	1.02	1.05	1.16	1.37	1.17	1.32	1.03	1.12	1.06
22.0	1.04	.93	.90	1.03	1.22	1.06	1.18	.94	1.04	.95
23.0	.96	.81	.79	.91	1.08	.95	1.09	.86	.97	.86
24.0	.85	.63	.72	.81	.98	.83	1.02	.76	.91	.77
25.0	.75	.51	.67	.72	.90	.71	.98	.67	.83	.70
26.0	.65	.41	.63	.66	.84	.61	.91	.57	.74	.65
27.0	.55	.34	.58	.61	.77	.54	.77	.50	.63	.60
28.0	.45	.31	.53	.55	.67	.48	.66	.44	.52	.55
29.0	.38	.32	.47	.45	.59	.42	.59	.37	.43	.48
30.0	.34	.30	.39	.38	.52	.33	.52	.31	.38	.41
31.0	.32		.31	.32	.45	.25	.47	.27	.32	.34
32.0	.33		.23	.27	.39	.18	.41	.26	.28	.28
33.0	.35		.19	.24	.34	.14	.35	.24	.25	.26
34.0	.36		.19	.24	.31	.12	.31	.22		.24
35.0	.33			.24	.33	.13	.29	.19		.21
LAT.	25.1	25.5	25.7	27.9	28.3	28.6	29.9	30.7	30.7	31.4
LONG.	44.4	50.1	44.9	43.5	43.2	42.4	44.5	41.6	43.1	41.3

TABLE XV.- Continued

AVERAGE MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	9.09	10.11	9.12	10.43	10.34	10.22	10.40	9.64	9.61	10.56
1.0	9.03	9.98	9.11	10.22	10.19	9.96	10.13	9.33	9.29	10.41
2.0	8.96	9.83	9.07	10.00	10.01	9.68	9.81	9.00	8.95	10.25
3.0	8.86	9.65	8.94	9.74	9.80	9.38	9.44	8.67	8.59	10.03
4.0	8.71	9.40	8.72	9.44	9.52	9.02	9.05	8.34	8.23	9.74
5.0	8.45	9.08	8.40	9.08	9.18	8.62	8.62	7.98	7.85	9.33
6.0	8.08	8.69	7.96	8.63	8.76	8.14	8.15	7.58	7.44	8.75
7.0	7.58	8.18	7.36	8.06	8.24	7.59	7.64	7.15	6.97	8.02
8.0	6.93	7.58	6.60	7.38	7.64	6.95	7.09	6.65	6.43	7.11
9.0	6.16	6.88	5.68	6.62	6.93	6.24	6.47	6.06	5.81	6.02
10.0	5.33	6.08	4.71	5.79	6.12	5.49	5.76	5.39	5.11	4.93
11.0	4.50	5.20	3.83	4.95	5.24	4.71	4.97	4.68	4.38	3.95
12.0	3.75	4.32	3.15	4.13	4.35	3.96	4.17	3.96	3.67	3.19
13.0	3.12	3.52	2.67	3.42	3.55	3.28	3.46	3.31	3.03	2.68
14.0	2.61	2.89	2.33	2.85	2.89	2.72	2.88	2.78	2.55	2.33
15.0	2.23	2.44	2.05	2.43	2.41	2.29	2.45	2.36	2.20	2.02
16.0	1.94	2.12	1.81	2.13	2.06	1.98	2.15	2.06	1.92	1.74
17.0	1.72	1.91	1.61	1.88	1.80	1.75	1.91	1.86	1.69	1.50
18.0	1.55	1.73	1.41	1.66	1.59	1.56	1.73	1.69	1.48	1.31
19.0	1.42	1.54	1.23	1.46	1.39	1.41	1.56	1.55	1.31	1.17
20.0	1.31	1.37	1.04	1.30	1.23	1.26	1.40	1.39	1.16	1.05
21.0	1.21	1.22	.88	1.19	1.06	1.12	1.23	1.23	1.04	.90
22.0	1.10	1.09	.80	1.12	.91	1.01	1.08	1.08	.94	.73
23.0	.98	1.00	.73	1.05	.78	.90	.96	.95	.86	.57
24.0	.86	.91	.65	.96	.68	.79	.86	.86	.79	.45
25.0	.75	.83	.57	.85	.62	.68	.77	.78	.71	.34
26.0	.68	.73	.50	.74	.59	.59	.69	.71	.63	.25
27.0	.63	.61	.44	.65	.54	.51	.62	.64	.55	.23
28.0	.56	.50	.35	.57	.49	.46	.55	.57	.48	.20
29.0	.49	.44	.26	.51	.42	.44	.49	.51	.41	.12
30.0	.42	.42	.24	.45	.35	.41	.44	.45	.35	.02
31.0	.35	.43	.23	.41	.29	.37	.40	.38	.28	-.03
32.0	.28	.42	.22	.38	.24	.34	.36	.32	.22	-.02
33.0	.23	.38	.20	.34	.20	.32	.33	.24	.18	.01
34.0	.19	.33	.14	.29	.17	.30	.31	.17	.14	.02
35.0	.17	.31		.23	.14	.26	.28	.12	.13	.03
LAT.	32.4	33.5	35.6	36.1	36.4	38.5	38.9	39.7	40.2	40.6
LONG.	41.3	40.8	44.0	40.5	40.1	40.7	40.5	39.6	39.7	43.2

TABLE XV.- Continued

AVERAGE MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr								
0.0	10.23	10.40	10.14		10.45	10.73		11.12	10.12	10.21
1.0	9.96	10.12	9.79		10.07	10.48		10.91	9.93	10.14
2.0	9.66	9.78	9.41		9.63	10.16	9.92	10.61	9.72	10.00
3.0	9.32	9.37	8.98		9.13	9.78	9.51	10.21	9.49	9.72
4.0	8.90	8.91	8.51		8.58	9.34	9.04	9.72	9.19	9.23
5.0	8.39	8.39	8.00		7.99	8.84	8.49	9.16	8.67	8.53
6.0	7.80	7.80	7.43		7.35	8.25	7.88	8.52	7.90	7.63
7.0	7.17	7.16	6.82		6.68	7.55	7.20	7.80	7.02	6.64
8.0	6.53	6.44	6.19		5.98	6.76	6.45	7.01	6.03	5.69
9.0	5.84	5.69	5.56		5.26	5.90	5.68	6.13	5.07	4.79
10.0	5.12	4.93	4.92	4.96	4.55	4.98	4.91	5.25	4.22	4.01
11.0	4.38	4.20	4.30	3.85	3.86	4.13	4.17	4.40	3.52	3.37
12.0	3.68	3.54	3.71	3.09	3.22	3.41	3.53	3.66	2.99	2.87
13.0	3.08	2.98	3.17	2.69	2.68	2.83	2.98	3.07	2.61	2.49
14.0	2.58	2.54	2.68	2.41	2.29	2.39	2.54	2.60	2.33	2.18
15.0	2.21	2.20	2.28	2.19	1.99	2.05	2.18	2.24	2.05	1.95
16.0	1.92	1.95	1.96	2.03	1.77	1.80	1.88	1.93	1.79	1.77
17.0	1.70	1.74	1.71	1.77	1.58	1.59	1.63	1.68	1.55	1.55
18.0	1.50	1.57	1.51	1.50	1.40	1.40	1.41	1.48	1.31	1.36
19.0	1.31	1.40	1.35	1.30	1.25	1.23	1.22	1.29	1.13	1.21
20.0	1.15	1.23	1.20	1.13	1.11	1.07	1.06	1.12	1.01	1.01
21.0	1.01	1.07	1.09	.97	.98	.94	.92	.96	.92	.81
22.0	.88	.94	.98	.82	.88	.85	.81	.84	.80	.65
23.0	.76	.83	.90	.77	.81	.75	.71	.75	.67	.55
24.0	.66	.75	.82	.75	.75	.64	.62	.67	.57	.52
25.0	.57	.69	.75	.70	.69	.58	.55	.58	.49	.49
26.0	.49	.63	.68	.58	.60	.45	.47	.48	.43	.44
27.0	.40	.55	.61	.45	.51	.35	.40	.39	.37	.37
28.0	.34	.48	.53	.37	.45	.28	.32	.32	.33	.37
29.0	.29	.42	.46	.35	.40	.22	.26	.28	.28	.40
30.0	.24	.39	.40	.36	.36	.19	.23	.27	.25	.32
31.0	.22	.38	.37	.34	.31	.15	.21	.26	.22	.17
32.0	.22	.37	.35	.34	.26	.13	.18	.24	.16	.07
33.0	.23	.34	.33	.34	.23	.10	.15	.20	.11	.06
34.0	.25	.31	.32	.26	.21	.07	.11	.18		.07
35.0	.25	.25	.31	.16	.20	.05	.07	.14		.08
LAT.	41.6	42.7	42.8	43.2	43.7	44.2	45.8	45.8	46.5	47.1
LONG.	40.9	40.5	39.9	104.0	39.9	41.8	40.8	41.4	46.6	44.5

TABLE XV.- Continued

AVERAGE MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0	10.76	10.72	10.47	10.08		10.37	9.49	9.60	10.73	
1.0	10.54	10.48	10.21	9.88		10.13	9.33	9.42	10.52	
2.0	10.27	10.18	9.90	9.61		9.86	9.12	9.19	10.24	
3.0	9.94	9.83	9.52	9.27		9.51	8.84	8.90	9.93	
4.0	9.52	9.41	9.07	8.84		9.02	8.45	8.55	9.53	
5.0	8.99	8.93	8.53	8.31		8.35	7.96	8.10	8.97	8.53
6.0	8.36	8.37	7.91	7.69		7.56	7.36	7.56	8.28	7.83
7.0	7.61	7.74	7.21	6.96		6.71	6.68	6.95	7.42	7.06
8.0	6.77	7.02	6.45	6.14		5.85	5.94	6.28	6.35	6.25
9.0	5.91	6.26	5.65	5.27	5.29	5.03	5.18	5.58	5.33	5.41
10.0	5.04	5.49	4.84	4.43	4.55	4.30	4.44	4.87	4.45	4.65
11.0	4.25	4.73	4.09	3.70	3.88	3.72	3.77	4.17	3.70	4.00
12.0	3.58	4.01	3.44	3.10	3.28	3.27	3.17	3.53	3.15	3.46
13.0	3.04	3.36	2.92	2.67	2.80	2.89	2.66	2.97	2.73	2.98
14.0	2.62	2.80	2.51	2.33	2.41	2.55	2.25	2.51	2.33	2.59
15.0	2.27	2.34	2.19	2.05	2.10	2.23	1.93	2.14	2.02	2.27
16.0	1.98	1.99	1.91	1.80	1.86	1.95	1.69	1.84	1.78	2.01
17.0	1.73	1.72	1.67	1.58	1.65	1.72	1.51	1.60	1.57	1.78
18.0	1.52	1.51	1.45	1.39	1.46	1.51	1.33	1.39	1.39	1.56
19.0	1.35	1.32	1.26	1.22	1.29	1.33	1.16	1.21	1.07	1.35
20.0	1.16	1.15	1.07	1.09	1.13	1.16	.99	1.07	1.12	1.19
21.0	.99	1.00	.91	.96	.97	.99	.84	.94	.94	1.06
22.0	.84	.87	.77	.84	.83	.86	.72	.83	.77	.96
23.0	.74	.75	.67	.70	.73	.75	.63	.72	.66	.89
24.0	.67	.64	.58	.58	.63	.67	.56	.63	.59	.77
25.0	.61	.54	.52	.50	.54	.59	.50	.56	.51	.66
26.0	.55	.46	.47	.44	.44	.54	.44	.50	.46	.55
27.0	.49	.38	.41	.41	.37	.52	.37	.42	.39	.47
28.0	.42	.33	.36	.38	.33	.52	.30	.36	.36	.42
29.0	.36	.28	.32	.35	.31	.49	.24	.30	.34	.39
30.0	.29	.23	.28	.28	.27	.42	.20	.24	.29	.36
31.0	.22	.18	.25	.20	.22	.33	.19	.19	.24	.30
32.0	.16	.13	.20	.14	.21	.25	.19	.15	.20	.26
33.0	.14	.08	.17	.09	.20	.21	.18	.12	.15	.23
34.0	.13	.04	.14	.10	.18	.17	.14	.09	.07	.18
35.0	.11	.00	.13	.13	.15	.13	.08	.07	.04	.09
LAT.	47.4	48.7	49.0	50.7	51.2	51.5	51.6	52.1	52.6	53.2
LONG.	42.7	41.5	42.4	43.3	44.7	101.0	45.1	43.9	51.7	99.6

TABLE XV.- Continued

AVERAGE MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr									
0.0		9.37	10.36	10.19	9.38	8.86	9.93			
1.0		9.17	10.20	10.10	9.12	8.57	9.73			
2.0		8.88	10.00	9.92	8.83	8.24	9.44			
3.0		8.53	9.78	9.72	8.48	7.89	9.03			
4.0		8.14	9.51	9.42	8.08	7.52	8.47			
5.0		7.71	9.22	8.85	7.62	7.13	7.77			
6.0		7.21	8.87	8.00	7.10	6.73	6.96			
7.0		6.62	8.45	6.91	6.51	6.28	6.08			
8.0		5.94	7.97	5.73	5.86	5.79	5.26			
9.0		5.19	7.41	4.72	5.18	5.24	4.57			
10.0	4.02	4.44	6.80	3.94	4.48	4.64	4.02	3.85	4.05	3.78
11.0	3.64	3.75	6.10	3.34	3.82	4.05	3.55	3.33	3.55	3.25
12.0	3.19	3.17	5.31	2.87	3.24	3.47	3.14	2.81	3.09	2.88
13.0	2.81	2.73	4.55	2.53	2.75	2.95	2.79	2.47	2.73	2.55
14.0	2.43	2.41	3.83	2.23	2.36	2.52	2.49	2.10	2.42	2.18
15.0	2.12	2.15	3.22	1.92	2.06	2.15	2.22	1.84	2.13	1.88
16.0	1.84	1.92	2.74	1.67	1.81	1.83	1.95	1.70	1.84	1.66
17.0	1.65	1.69	2.37	1.48	1.59	1.55	1.71	1.55	1.58	1.43
18.0	1.54	1.49	2.08	1.27	1.39	1.33	1.50	1.39	1.41	1.19
19.0	1.38	1.32	1.84	1.10	1.22	1.15	1.31	1.18	1.29	1.00
20.0	1.20	1.20	1.65	.95	1.07	.99	1.15	1.00	1.14	.84
21.0	1.02	1.09	1.47	.79	.94	.87	1.05	.82	1.01	.69
22.0	.89	.98	1.32	.64	.82	.76	.95	.66	.88	.59
23.0	.75	.86	1.18	.51	.71	.65	.84	.58	.74	.49
24.0	.63	.75	1.06	.41	.61	.55	.73	.55	.67	.42
25.0	.57	.64	.93	.31	.52	.47	.63	.45	.59	.38
26.0	.54	.53	.82	.26	.43	.43	.55	.39	.47	.30
27.0	.51	.43	.70	.24	.37	.36	.48	.34	.41	.24
28.0	.41	.34	.58	.23	.34	.30	.39	.23	.36	.18
29.0	.31	.29	.48	.21	.31	.26	.33	.20	.31	.12
30.0	.24	.27	.40	.17	.27	.21	.31	.22	.28	.07
31.0	.18	.27	.35	.11	.21	.16	.30	.22	.23	.02
32.0	.17	.26	.34	.10	.17	.13	.27	.16	.18	-.03
33.0	.19	.24	.32	.11	.15	.09	.22	.08	.12	-.03
34.0	.18	.21	.30	.13	.13	.06	.20	.01	.08	.00
35.0	.17	.20	.26	.14	.12	.04	.19	.02	.09	-.01
LAT.	53.5	54.3	54.4	54.9	54.9	55.1	55.5	56.5	57.5	57.5
LONG.	94.8	46.5	49.5	60.1	48.7	47.4	96.8	77.7	91.9	64.2

TABLE XV.- Continued

AVERAGE MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr								
0.0	9.32	9.51	9.67	9.28	8.69	9.97	9.28	8.37	8.80	9.03
1.0	9.23	9.31	9.44	9.09	8.39	9.76	9.05	8.11	8.64	8.82
2.0	9.10	9.07	9.17	8.86	8.08	9.51	8.78	7.86	8.40	8.54
3.0	8.83	8.76	8.82	8.59	7.73	9.23	8.46	7.59	8.07	8.22
4.0	8.36	8.36	8.41	8.27	7.34	8.93	8.08	7.30	7.66	7.87
5.0	7.74	7.89	7.95	7.92	6.90	8.60	7.63	6.95	7.17	7.48
6.0	7.04	7.31	7.42	7.53	6.39	8.24	7.09	6.54	6.59	7.02
7.0	6.20	6.62	6.81	7.07	5.81	7.83	6.50	6.04	5.93	6.43
8.0	5.38	5.83	6.16	6.53	5.21	7.34	5.87	5.47	5.22	5.71
9.0	4.71	5.03	5.46	5.85	4.66	6.76	5.23	4.86	4.53	4.93
10.0	4.14	4.30	4.74	5.09	4.13	6.08	4.60	4.25	3.88	4.20
11.0	3.63	3.64	4.09	4.36	3.65	5.37	4.03	3.74	3.33	3.61
12.0	3.21	3.09	3.50	3.72	3.22	4.69	3.50	3.31	2.86	3.15
13.0	2.89	2.66	2.99	3.21	2.83	4.04	3.03	2.93	2.48	2.79
14.0	2.57	2.29	2.56	2.82	2.51	3.48	2.63	2.59	2.20	2.50
15.0	2.27	1.97	2.21	2.50	2.21	3.00	2.31	2.29	1.96	2.22
16.0	2.01	1.73	1.94	2.22	1.95	2.59	2.03	2.02	1.74	1.97
17.0	1.78	1.54	1.73	1.92	1.71	2.25	1.81	1.76	1.54	1.76
18.0	1.58	1.37	1.54	1.66	1.48	2.00	1.63	1.52	1.35	1.55
19.0	1.40	1.22	1.37	1.44	1.27	1.80	1.47	1.31	1.18	1.37
20.0	1.21	1.07	1.23	1.23	1.07	1.64	1.31	1.13	1.02	1.21
21.0	1.03	.92	1.08	1.05	.92	1.47	1.16	.96	.88	1.05
22.0	.85	.80	.95	.90	.80	1.32	1.02	.84	.77	.93
23.0	.71	.72	.84	.78	.69	1.16	.88	.75	.65	.83
24.0	.61	.65	.75	.68	.60	1.00	.74	.68	.57	.76
25.0	.56	.56	.68	.58	.53	.86	.62	.60	.51	.67
26.0	.52	.45	.59	.48	.47	.73	.52	.53	.45	.58
27.0	.48	.35	.51	.41	.39	.64	.43	.45	.37	.51
28.0	.44	.28	.43	.36	.29	.57	.37	.37	.29	.46
29.0	.38	.23	.36	.32	.22	.50	.33	.32	.21	.43
30.0	.33	.20	.29	.29	.17	.44	.31	.29	.15	.41
31.0	.27	.18	.25	.26	.16	.38	.30	.25	.10	.37
32.0	.21	.16	.22	.23	.17	.32	.29	.21	.08	.32
33.0	.18	.13	.19	.20	.17	.29	.28	.15	.08	.25
34.0	.16	.11	.18	.16	.17	.27	.25	.09	.10	.19
35.0	.12	.10	.18	.12	.14	.26	.22	.05	.11	.15
LAT.	57.7	58.0	58.0	58.6	58.7	58.9	59.5	59.9	60.2	60.3
LONG.	88.7	56.3	52.8	81.0	91.1	62.6	56.3	87.4	60.1	66.1

TABLE XV – Concluded

AVERAGE MEASURED RADIANCE PROFILES FOR 315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Radiance, W/m^2-sr				
0.0	8.28	8.40	7.65	8.81	7.94
1.0	8.14	8.23	7.47	8.66	7.79
2.0	7.97	8.06	7.28	8.47	7.59
3.0	7.74	7.82	7.04	8.19	7.35
4.0	7.48	7.50	6.76	7.81	7.08
5.0	7.14	7.07	6.42	7.34	6.76
6.0	6.67	6.53	6.04	6.79	6.39
7.0	6.05	5.94	5.60	6.17	5.93
8.0	5.36	5.30	5.13	5.54	5.41
9.0	4.65	4.64	4.62	4.88	4.84
10.0	3.95	4.01	4.08	4.27	4.26
11.0	3.37	3.46	3.58	3.73	3.71
12.0	2.98	3.00	3.13	3.26	3.22
13.0	2.71	2.64	2.73	2.86	2.80
14.0	2.43	2.35	2.40	2.52	2.46
15.0	2.13	2.08	2.13	2.23	2.17
16.0	1.84	1.83	1.89	1.97	1.92
17.0	1.57	1.58	1.66	1.72	1.70
18.0	1.33	1.37	1.46	1.50	1.49
19.0	1.15	1.20	1.27	1.30	1.29
20.0	1.05	1.05	1.08	1.13	1.12
21.0	.96	.91	.91	.99	.96
22.0	.89	.78	.78	.86	.83
23.0	.78	.68	.67	.76	.73
24.0	.67	.60	.56	.66	.65
25.0	.58	.53	.51	.58	.59
26.0	.51	.47	.47	.51	.53
27.0	.43	.41	.44	.45	.45
28.0	.36	.33	.41	.39	.37
29.0	.32	.29	.37	.33	.30
30.0	.27	.26	.35	.28	.23
31.0	.21	.22	.33	.23	.17
32.0	.15	.19	.30	.18	.14
33.0	.12	.16	.28	.14	.14
34.0	.12	.14	.24	.11	.13
35.0	.13	.14	.21	.08	.12
LAT.	60.6	61.3	61.4	61.4	61.7
LONG.	78.5	69.5	79.8	65.1	76.0

TABLE XVI

MIXING RATIO AND RADIANCE PROFILES FOR

315 cm^{-1} TO 475 cm^{-1} (DECEMBER 1966)

Tangent height, km	Average measured radiance, W/m^2-sr	Analytical radiance, W/m^2-sr	Mixing ratio, g/kg
5	9.29		
6	8.71		
7	7.96		
8	7.04		
9	5.99		
10	4.92		
11	3.96		
12	3.20		
13	2.67		
14	2.30		
15	2.04		
16	1.84	1.83	.0056
17	1.66	1.65	.0060
18	1.48	1.45	.0050
19	1.33	1.32	.0050
20	1.18	1.18	.0052
21	1.02	1.02	.0049
22	.87	.86	.0041
23	.77	.76	.0043
24	.67	.66	.0043
25	.59	.59	.0047
26	.52	.52	.0051
27	.45	.45	.0052
28	.38	.38	.0049
29	.33	.33	.0050
30	.28	.28	.0048
31	.24	.24	.0043
32	.22	.22	.0052
33	.20	.20	.0075
34	.19	.20	.0136
35	.14	.14	.0123

TABLE XVII

TEMPERATURE AND WIND DATA DERIVED FROM FORT SHERMAN

MRN LAUNCH AT 0630 GMT, DECEMBER 10, 1966

Altitude, km	Temperature, °K	Altitude, km	-N+S wind velocity, m/sec	-E+W wind velocity, m/sec
58.0	256.2	58.3	+6	-34
55.0	264.9	55.2	-11	-15
52.0	269.3	52.4	-4	-27
50.0	266.7	50.0	-8	-9
46.0	269.3	46.4	-11	-10
43.0	263.7	43.3	-5	-13
41.0	260.0	40.8	-4	+5
39.0	253.8	38.7	+2	-2
37.0	249.3	36.8	+4	-12
35.0	240.3	35.3	0	-10
34.0	234.0	33.9	-1	-14
33.0	235.2	32.6	-5	-18
31.0	237.2	31.2	0	-18
30.0	233.3	30.2	-4	-18
29.0	231.9	29.3	-1	-15
		28.5	+4	-6
28.0	230.4	27.7	-2	-9
27.0	223.8	26.9	-3	-7
26.0	223.9	26.1	-4	-3
25.0	220.5	25.0	-2	+1
24.0	215.6	24.1	-2	-1
23.0	212.0	23.0	-2	+9

TABLE XVIII

TEMPERATURE AND WIND DATA DERIVED FROM ANTIGUA

MRN LAUNCH AT 0337 GMT, DECEMBER 10, 1966

Altitude, km	Temperature, °K	Altitude, km	-N+S wind velocity, m/sec	-E+W wind velocity, m/sec
53.0	273.3	53.0	-6	+25
52.0	275.9	52.0	-10	+19
51.0	273.8	51.0	-14	+17
50.0	272.8	50.0	-17	+17
49.0	274.3	49.0	-19	+19
48.0	270.7	48.0	-22	+20
47.0	270.1	47.0	-28	+21
46.0	271.3	46.0	-28	+21
45.0	269.8	45.0	-19	+19
44.0	266.5	44.0	-9	+17
43.0	264.5	43.0	-2	+17
42.0	261.5	42.0	+2	+14
41.0	256.5	41.0	+1	+9
40.0	256.5	40.0	-1	+7
39.0	253.8	39.0	+2	0
38.0	247.3	38.0	+12	-5
37.0	242.6	37.0	+13	-9
36.0	243.2	36.0	+8	-10
35.0	241.3	35.0	+3	-10
34.0	239.3	34.0	+2	-11
33.0	238.3	33.0	+10	-11
32.0	239.1	32.0	-2	-13

TABLE XIX

TEMPERATURE AND WIND DATA DERIVED FROM EGLIN AIR FORCE BASE MRN LAUNCH AT 0628 GMT, DECEMBER 10, 1966

Altitude, km	Temperature, °K	Altitude, km	-N+S wind velocity, m/sec	-E+W wind velocity, m/sec
		46.0	-28	+70
		45.0	-16	+72
		44.0	-12	+73
		43.0	+3	+63
		42.0	-2	+62
		41.0	+6	+51
		40.0	+10	+52
		39.0	+10	+54
38.0	243.6	38.0	+15	+47
37.0	240.0	37.0	+17	+47
36.0	237.5	36.0	+18	+49
35.0	240.8	35.0	+18	+45
34.0	233.0	34.0	+11	+42
33.0	231.2	33.0	+14	+45
32.0	233.3	32.0	+5	+46
31.0	232.9	31.0	-1	+36
30.0	231.4	30.0	+1	+24
29.0	227.5	28.0	-12	+10
28.0	224.0	26.0	-15	+11
27.0	220.1	25.0	-11	0
26.0	218.4			

TABLE XX

TEMPERATURE AND WIND DATA DERIVED FROM WALLOPS ISLAND

MRN LAUNCH AT 0352 GMT, DECEMBER 10, 1966

Altitude, km	Temperature, °K	Altitude, km	-N+S wind velocity, m/sec	-E+W wind velocity, m/sec
		55.0	-31	+120
		54.0	-30	+116
		53.0	-34	+118
		52.0	-36	+116
		51.0	-36	+112
		50.0	-38	+115
		49.0	-34	+105
		48.0	-33	+96
		47.0	-34	+90
46.0	262.3	46.0	-28	+81
45.0	260.4	45.0	-21	+75
44.0	258.5	44.0	-14	+77
43.0	254.9	43.0	-7	+71
42.0	250.9	42.0	-3	+65
41.0	253.7	41.0	+1	+64
40.0	250.4	40.0	+7	+60
39.0	242.7	39.0	+9	+52
38.0	239.3	38.0	+5	+45
37.0	234.6	37.0	+5	+43
		36.0	+8	+42
		35.0	+6	+40
		34.0	+4	+31

TABLE XXI

TEMPERATURE AND WIND DATA DERIVED FROM FORT CHURCHILL

MRN LAUNCH AT 0900 GMT, DECEMBER 10, 1966

Altitude, km	Temperature, °K	Altitude, km	-N+S wind velocity, m/sec	-E+W wind velocity, m/sec
54.0	250.0	54.0	-8	-45
52.0	250.0	52.0	-2	-52
50.0	248.0	50.0	+3	-61
48.0	243.0	48.0	+2	-45
46.0	234.0	46.0	0	-53
44.0	232.0	44.0	+3	-52
42.0	225.0	42.0	+7	-58
40.0	221.0	40.0	+8	-46
38.0	219.0	38.0	+7	-41
36.0	218.0	36.0	+8	-42
34.0	214.0	34.0	+10	-37
32.0	213.0	32.0	+6	-34
30.0	212.0	30.0	+5	-30
28.0	211.0	28.0	+7	-26

TABLE XXII

TEMPERATURE AND WIND DATA DERIVED FROM WHITE SANDS

MRN LAUNCH AT 0400 GMT, DECEMBER 10, 1966

Altitude, km	Temperature, °K	Altitude, km	-N+S wind velocity, m/sec	-E+W wind velocity, m/sec
57.0	250.2	56.4	0	+93
51.8	252.0	52.7	-3	+93
50.3	253.7	50.0	0	+82
48.8	259.4	48.5	0	+93
44.5	266.9	44.8	0	+77
42.7	284.7	41.8	0	+72
38.7	262.9	38.7	+2	+51
36.6	260.4	36.3	+1	+41
34.8	241.8	34.8	+3	+36
33.8	234.4	32.9	-3	+31
32.0	232.4	32.3	+1	+26
30.5	231.2	30.5	-1	+26
29.0	225.9	29.0	-2	+21
28.0	218.7	28.0	-9	+19
27.4	221.2	27.4	0	+15
26.5	220.4	26.5	-2	+21
25.6	224.0	25.6	-2	+26
24.4	221.6	24.7	+2	+26
24.1	219.6	24.1	+2	+21
20.7	218.5	20.7	+4	+12

TABLE XXIII

MODEL ATMOSPHERES DERIVED FROM METEOROLOGICAL DATA (DECEMBER 1966)

Altitude, km	Antigua ($17^{o}9'$ N, $61^{o}47'$ W)		International Falls ($48^{o}34'$ N, $93^{o}24'$ W)		Trout Lake ($53^{o}50'$ N, $89^{o}52'$ W)		Fort Churchill ($58^{o}44'$ N, $93^{o}49'$ W)	
	Temperature, ^{o}K	Pressure, mb	Temperature, ^{o}K	Pressure, mb	Temperature, ^{o}K	Pressure, mb	Temperature, ^{o}K	Pressure, mb
0	299.0	1013.300	258.7	992.112	246.8	1015.500	253.0	1034.000
2	284.3	805.699	262.6	798.422	256.0	792.809	252.5	804.754
4	275.9	630.612	251.1	622.471	249.4	610.593	248.2	624.786
6	262.8	488.691	233.8	462.500	233.3	457.237	230.0	454.667
8	252.0	374.242	221.1	342.864	224.0	339.894	216.4	304.839
10	236.3	283.200	222.0	250.420	218.4	246.918	219.3	243.750
12	219.3	209.375	222.4	185.829	223.7	183.245	221.8	180.214
14	206.2	151.130	219.1	138.170	219.4	134.400	223.0	133.523
16	197.3	108.001	218.0	99.340	217.9	98.158	221.8	98.395
18	197.7	76.184	216.5	73.012	217.0	71.842	218.4	77.000
20	209.6	54.690	214.7	53.269	215.3	52.745	215.2	51.852
22	214.4	39.736	216.1	38.564	215.9	39.317	215.0	38.758
24	218.0	29.013	217.0	28.286	214.7	27.852	214.5	27.466
26	220.3	21.339	217.0	20.639	216.0	20.290	213.0	19.892
28	227.0	15.690	216.1	15.162	216.0	14.816	211.1	14.490
30	236.0	11.700	215.2	11.133	216.0	10.800	212.0	10.480
32	239.0	8.800	215.0	8.047	216.0	7.890	213.0	7.620
34	239.0	6.630	222.0	5.870	219.0	5.780	214.0	5.550
36	243.0	5.010	229.0	4.350	219.0	4.240	218.0	4.060
38	248.0	3.810	234.0	3.250	226.0	3.130	219.0	2.980
40	257.0	2.920	236.0	2.434	226.0	2.320	221.0	2.190
42	261.0	2.250	245.0	1.839	236.0	1.730	225.0	1.617
44	266.0	1.740	250.0	1.400	240.0	1.306	232.0	1.203
46	271.0	1.356	254.0	1.071	244.0	.988	234.0	.901
48	271.0	1.058	257.0	.823	251.0	.753	243.0	.679
50	273.0	.827	253.0	.632	251.0	.576	248.0	.516
52	276.0	.647	252.0	.484	251.0	.440	250.0	.394
54	268.0	.506	251.0	.371	250.0	.336	250.0	.301
56	263.0	.414	252.3	.303	250.7	.271	250.7	.249
58	258.0	.322	253.7	.234	251.3	.205	251.3	.197
60	253.0	.230	255.0	.166	252.0	.140	252.0	.145
62	246.2	.185	249.8	.133	248.4	.112	248.4	.116
64	239.4	.140	244.6	.100	244.8	.085	244.8	.087
66	232.6	.101	239.4	.075	241.4	.064	241.4	.066
68	225.8	.075	234.2	.058	238.2	.049	238.2	.051
70	219.0	.056	229.0	.041	235.0	.035	235.0	.036

TABLE XXIV

RADIANCE DEVIATIONS FROM A WINTER ATMOSPHERE*

FOR TWO ERROR SOURCES (DECEMBER 1966)

Tangent height, km	Unperturbed radiance, W/m^2-sr	MRN error, W/m^2-sr	Map analysis error ($\pm 5^{\circ}$ K), W/m^2-sr	Error bounds, W/m^2-sr
10	4.7119	0.11	±0.20	+0.23 -.20
20	4.4759	.11	±.21	+.24 -.21
30	3.1910	.17	±.36	+.40 -.36
40	1.7561	.15	±.23	+.28 -.23
50	.6307	.09	±.10	+.14 -.10
60	.1898	.03	±.03	+.04 -.03

*International Falls, Minnesota, 02 GMT, December 10, 1966.

TABLE XXV

RADIANCE DEVIATIONS FROM 1962 U.S. STANDARD ATMOSPHERE FOR TWO ERROR SOURCES

Tangent height, km	Unperturbed radiance, W/m^2-sr	MRN error, W/m^2-sr	Map analysis error ($\pm 5^\circ$ K), W/m^2-sr	Error bounds, W/m^2-sr
10	5.43	0.12	±0.23	+0.26 -.23
20	5.34	.13	±.26	+.29 -.26
30	4.26	.18	±.44	+.48 -.44
40	2.45	.17	±.23	+.29 -.23
50	.96	.10	±.09	+.14 -.09
60	.23	.04	±.02	+.05 -.02

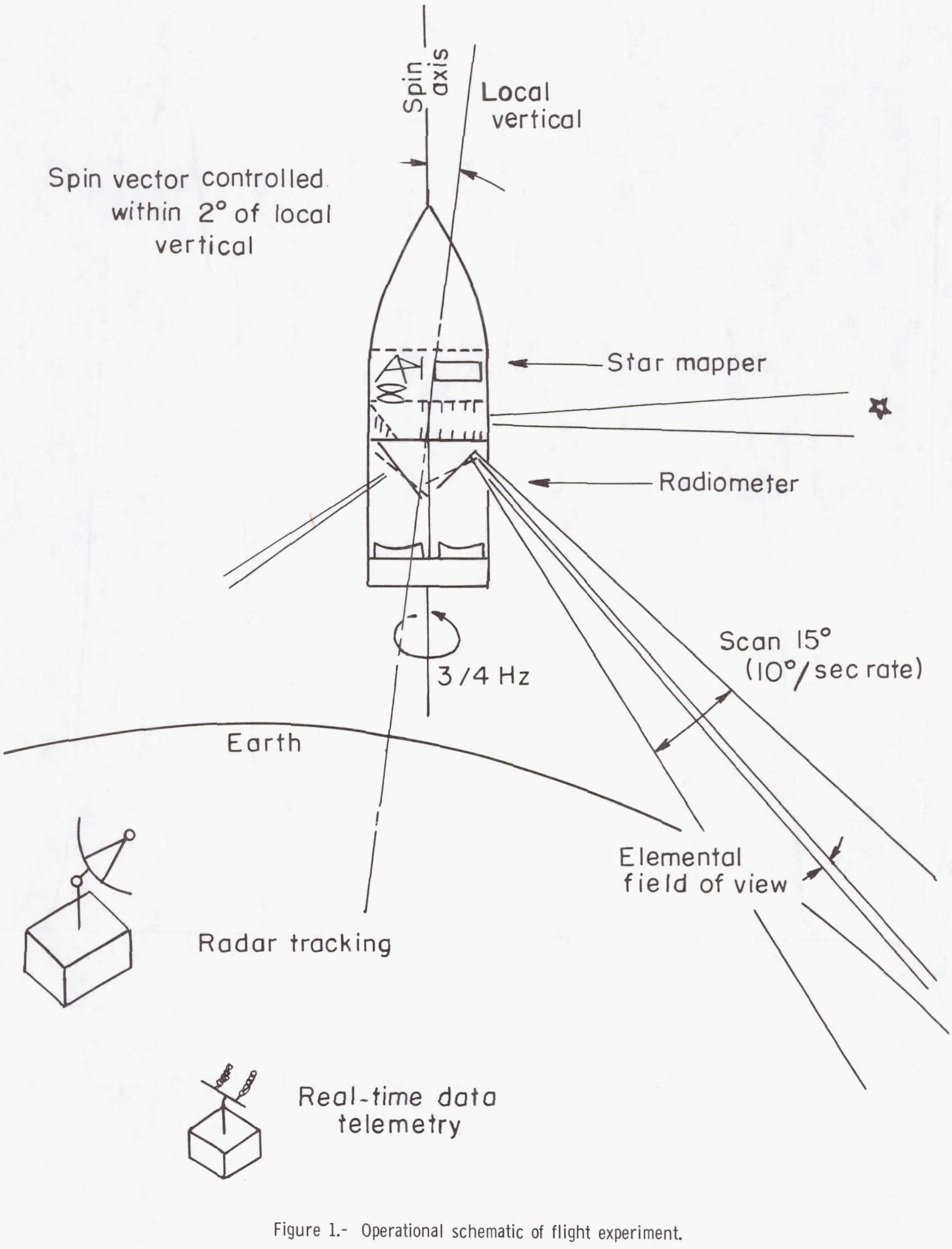


Figure 1.- Operational schematic of flight experiment.

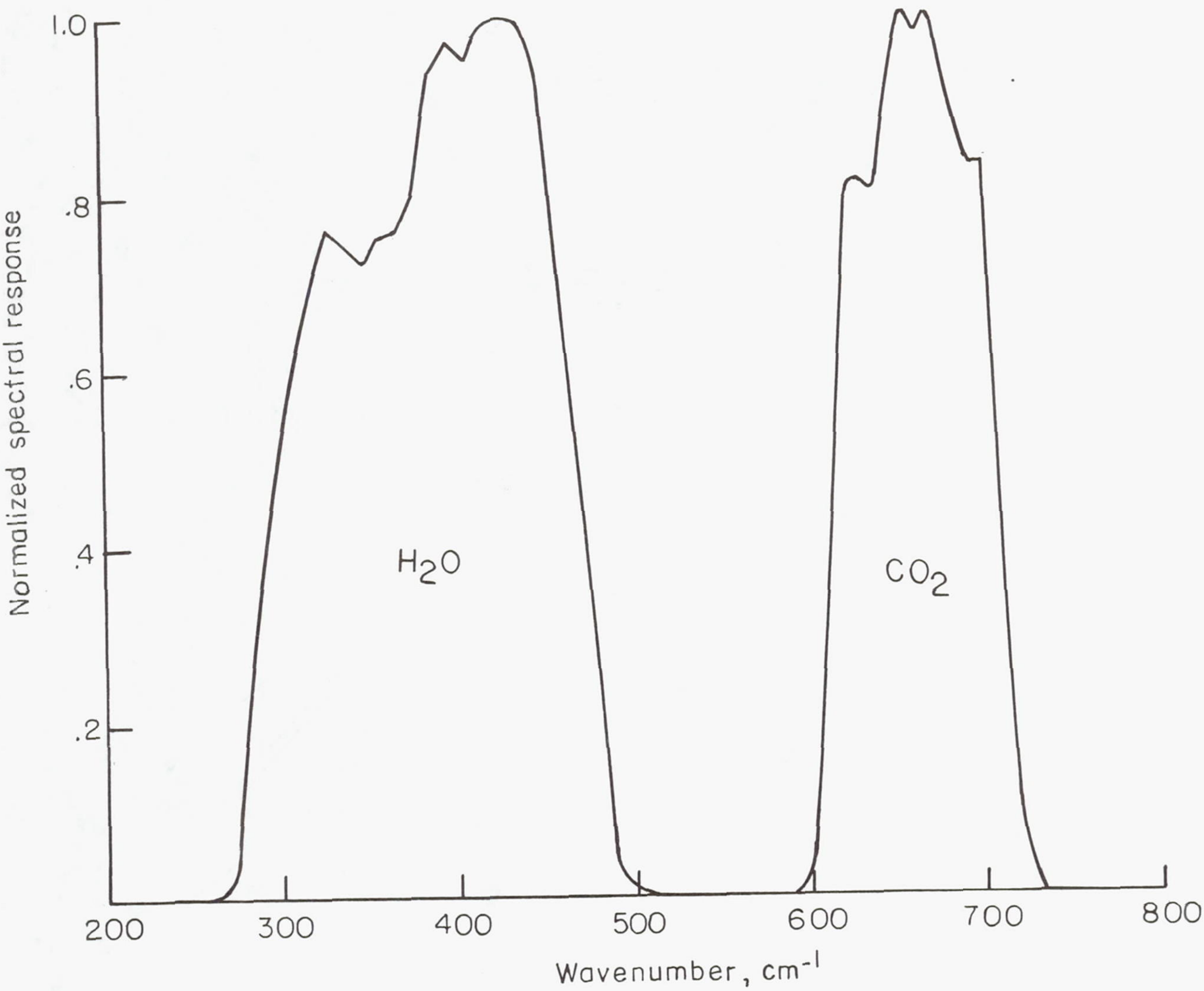
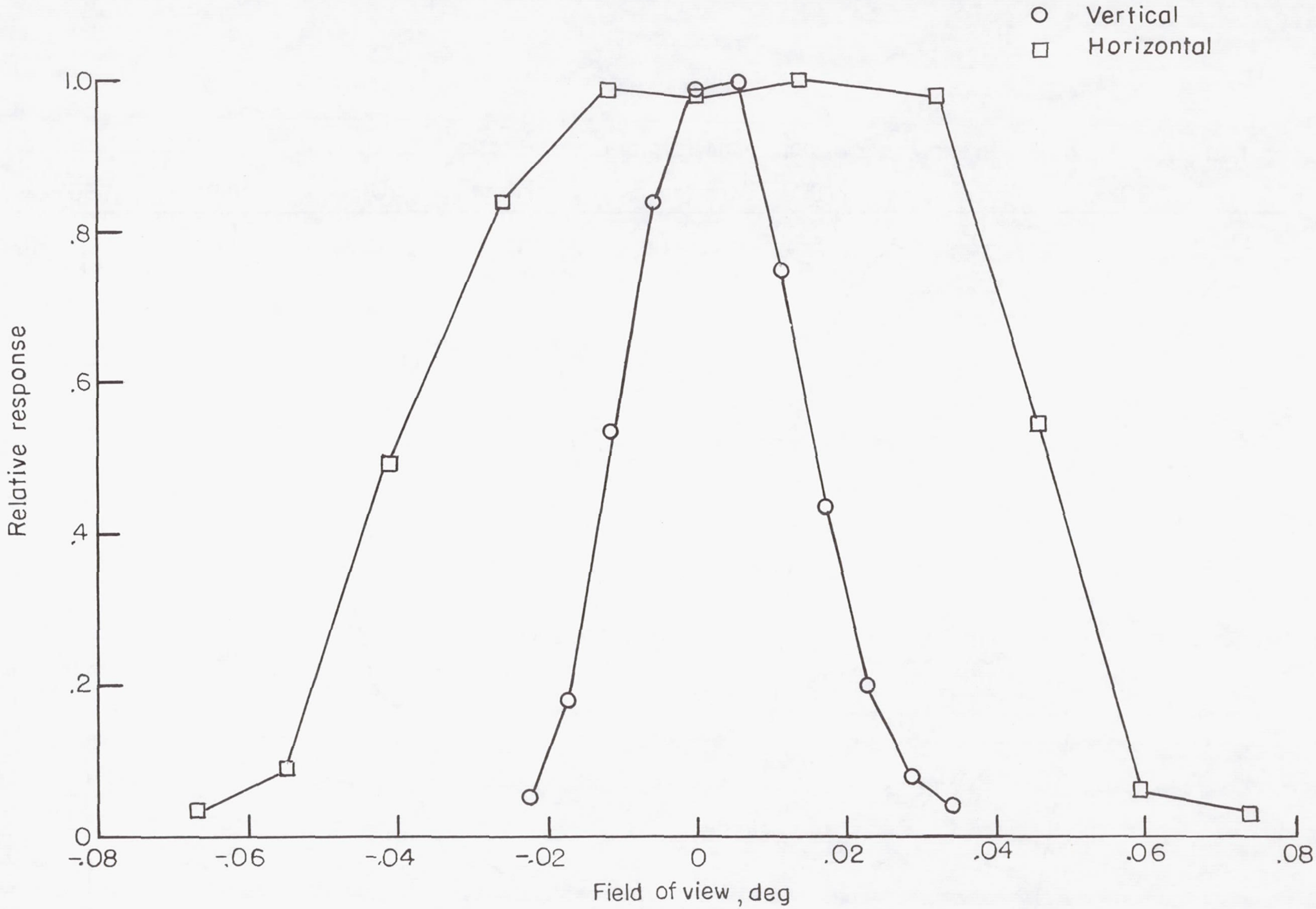
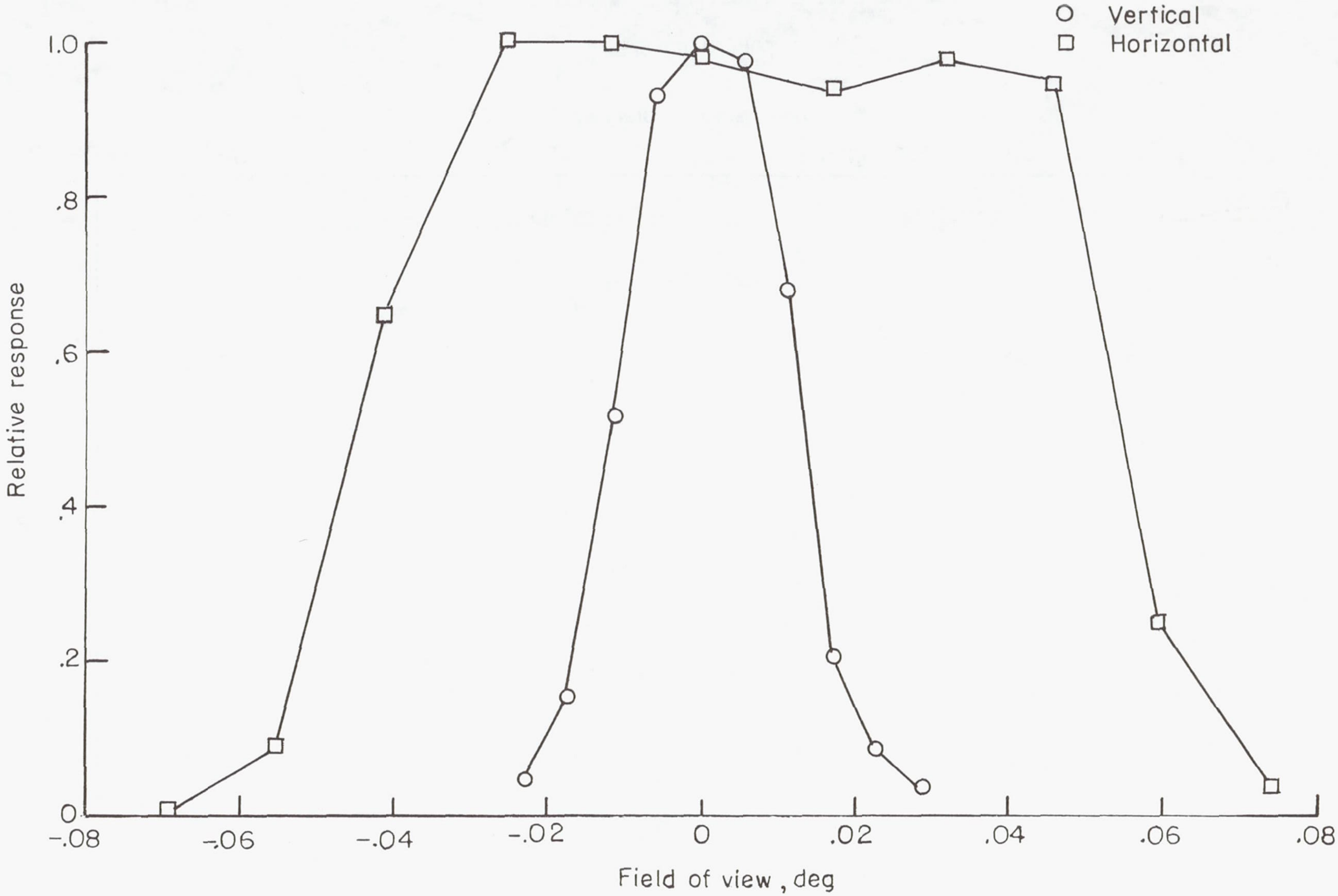


Figure 2.- Representative normalized dual radiometer spectral response.



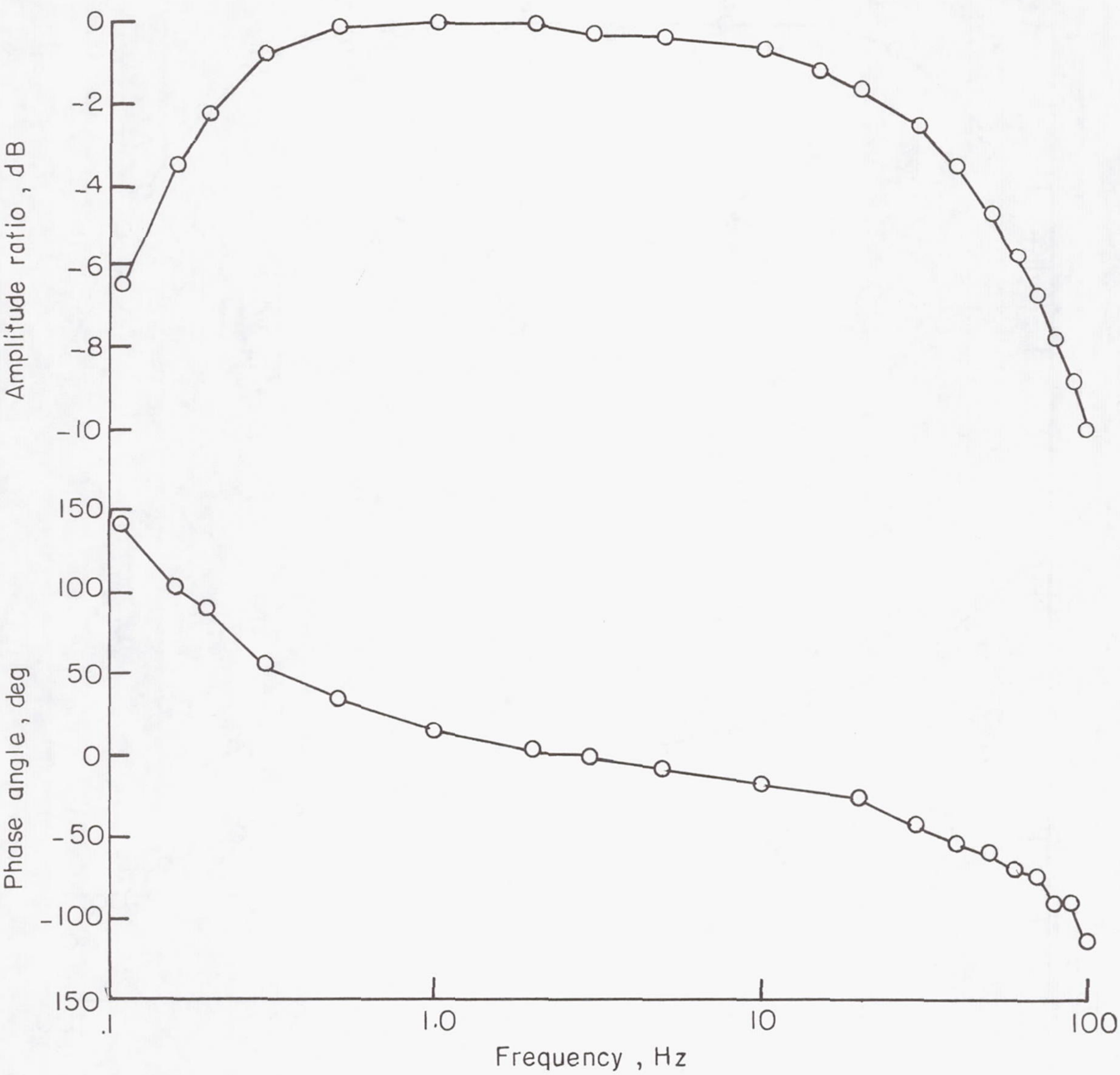
(a) 615 cm^{-1} to 715 cm^{-1} (CO_2).

Figure 3.- Typical elemental field-of-view contours for dual radiometer.



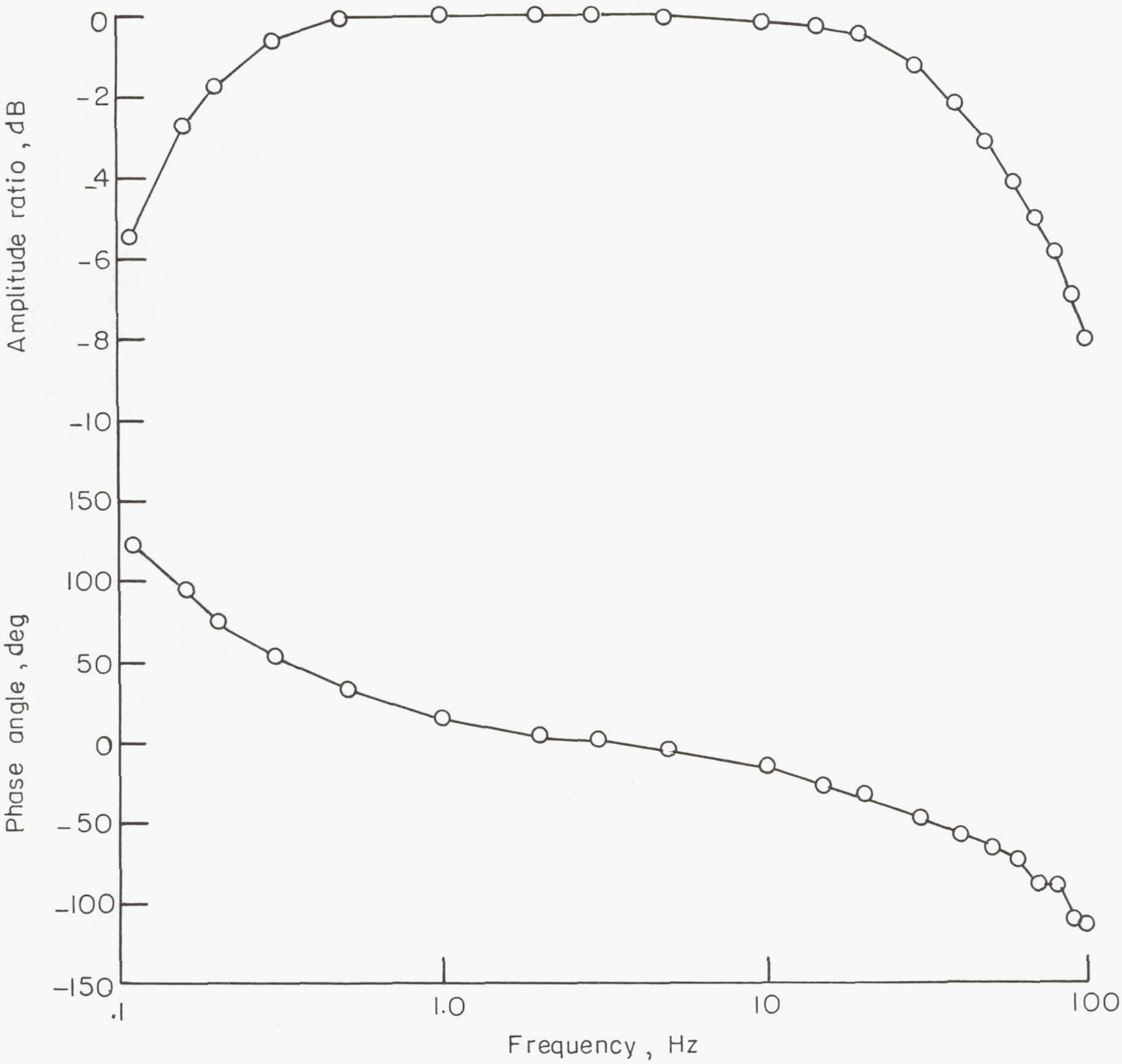
(b) 315 cm^{-1} to 475 cm^{-1} (H_2O).

Figure 3.- Concluded.



(a) 615 cm^{-1} to 715 cm^{-1} (CO_2).

Figure 4.- Typical phase and amplitude response for dual radiometer.



(b) 315 cm^{-1} to 475 cm^{-1} (H_2O).

Figure 4.- Concluded.

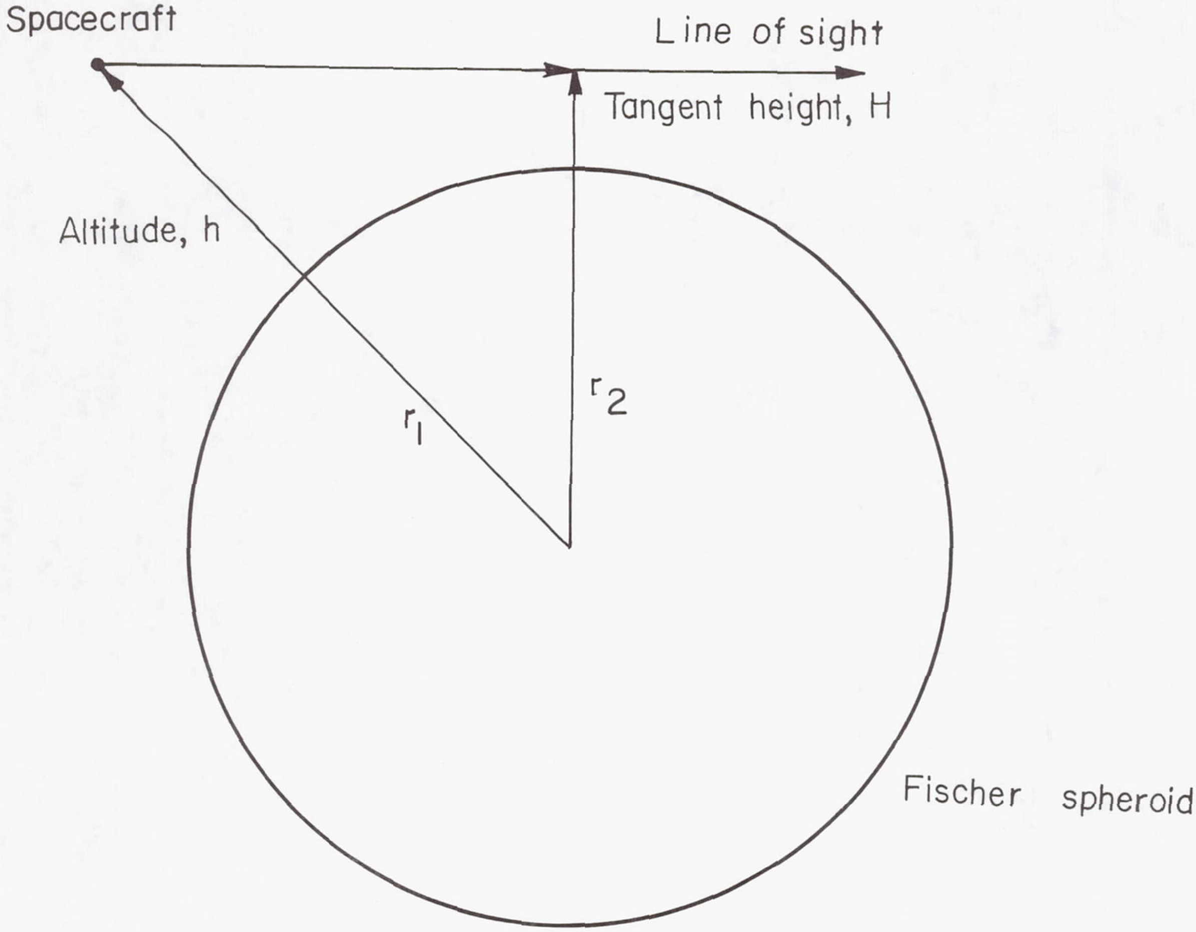
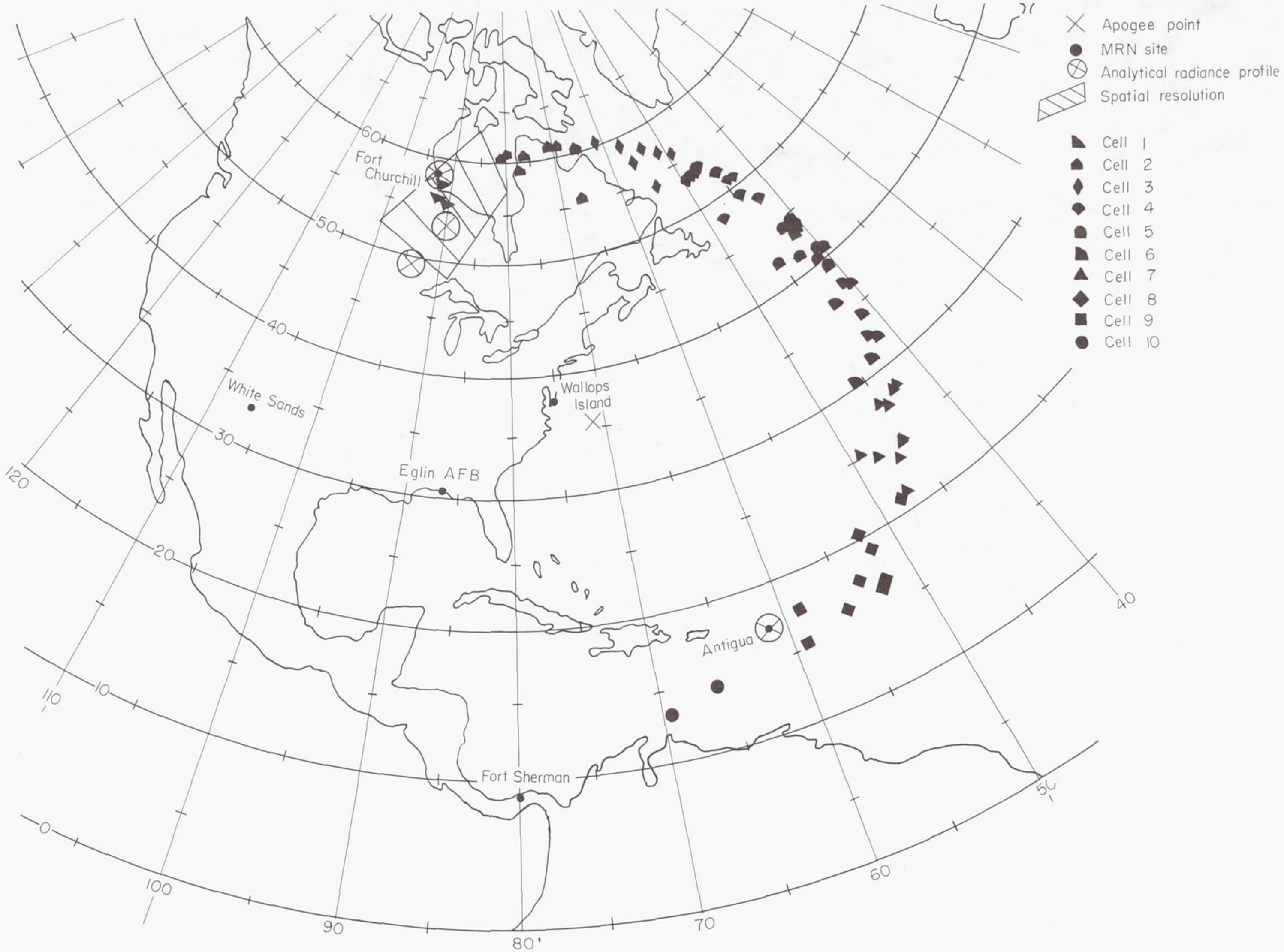
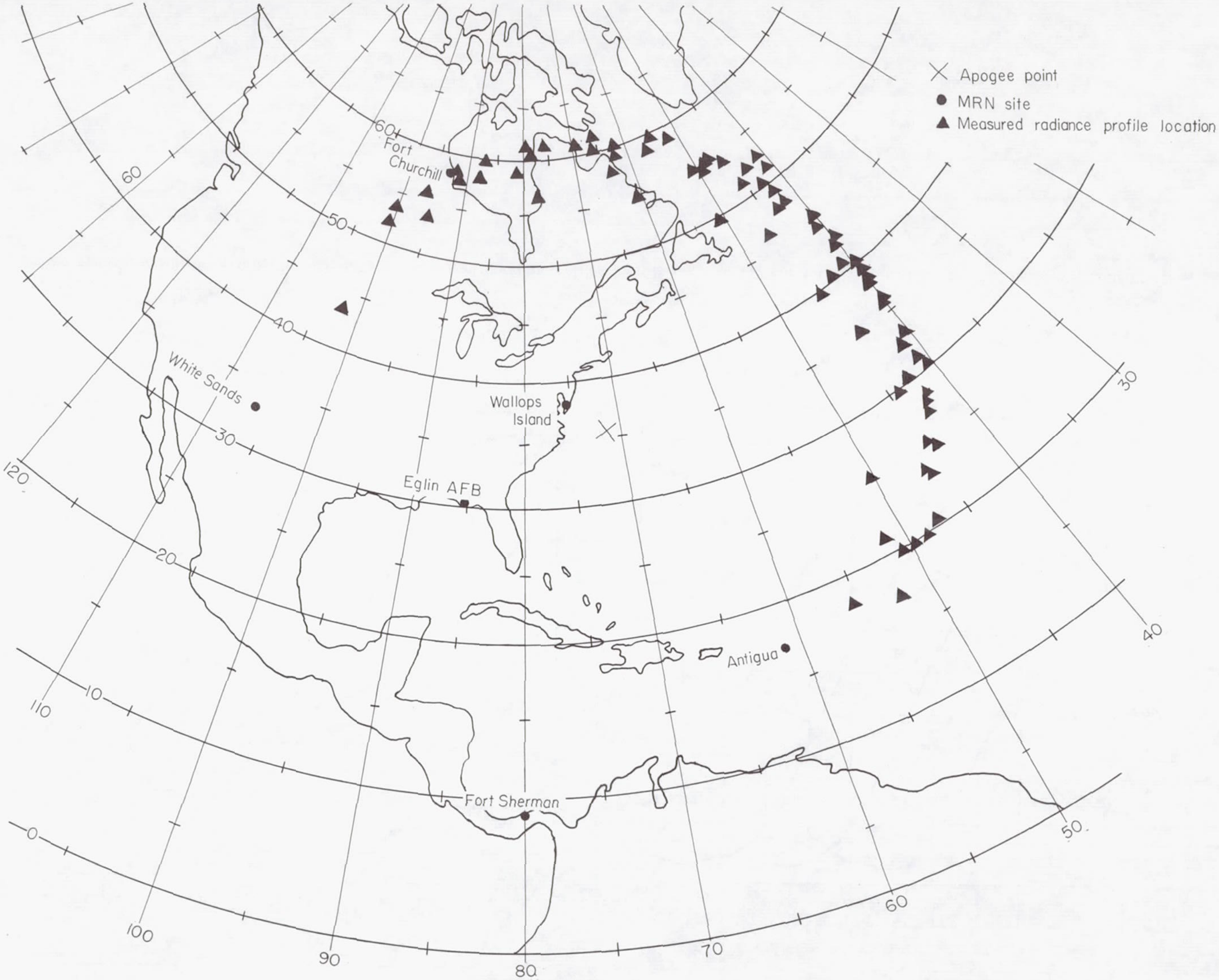


Figure 5.- Definition of tangent height.



(a) 615 cm^{-1} to 715 cm^{-1} (CO_2).

Figure 6.- Geographic location of measured horizon profiles.



(b) 315 cm^{-1} to 475 cm^{-1} (H_2O).

Figure 6.- Concluded.

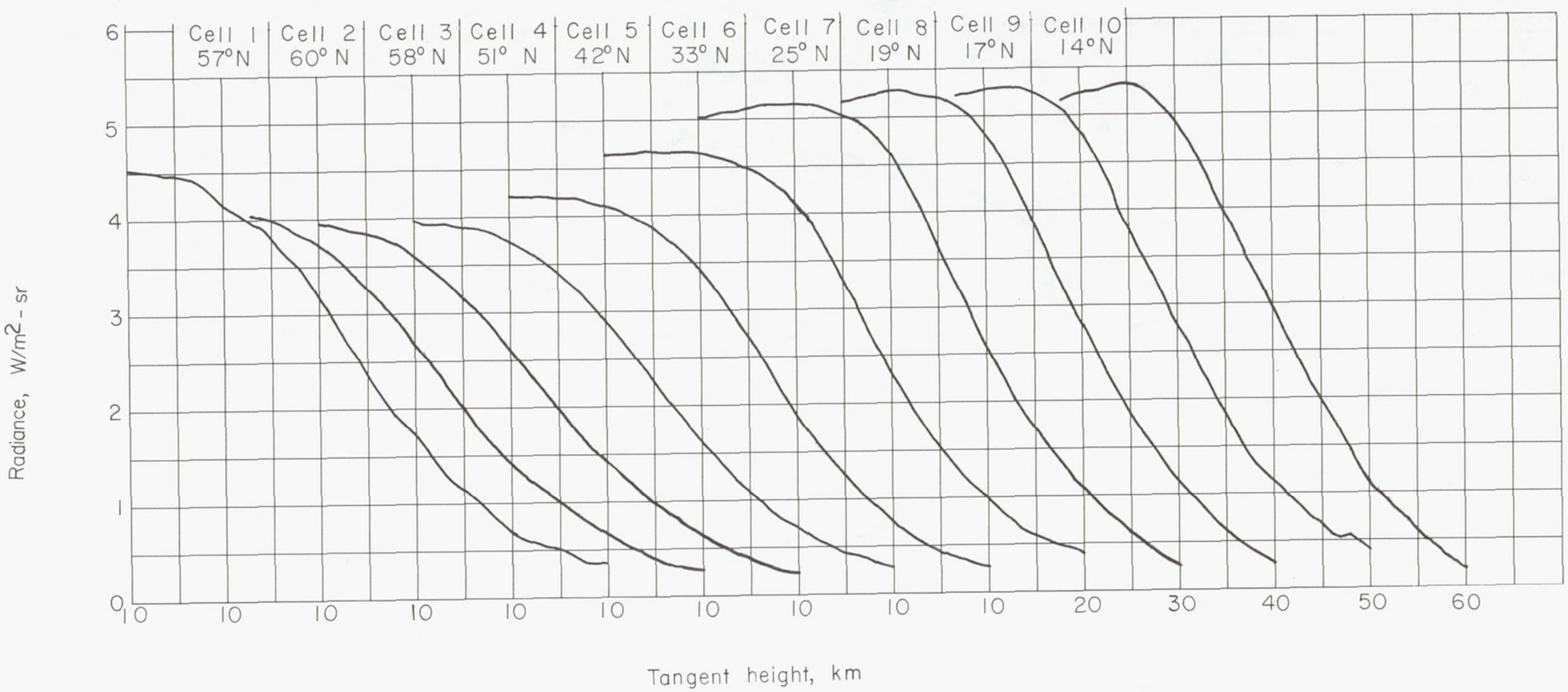


Figure 7.- Comparison of geographic variations of measured horizon profiles for 615 cm^{-1} to 715 cm^{-1} (CO_2) under winter meteorological conditions.

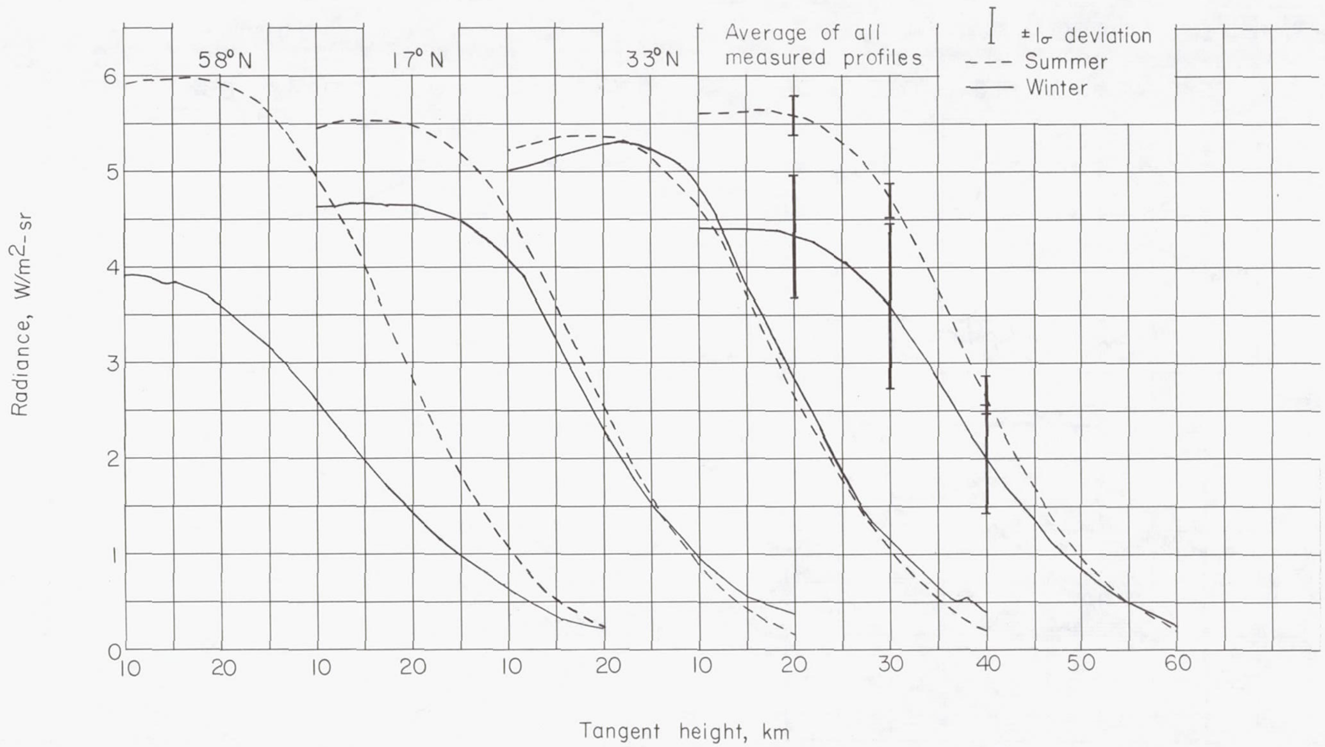
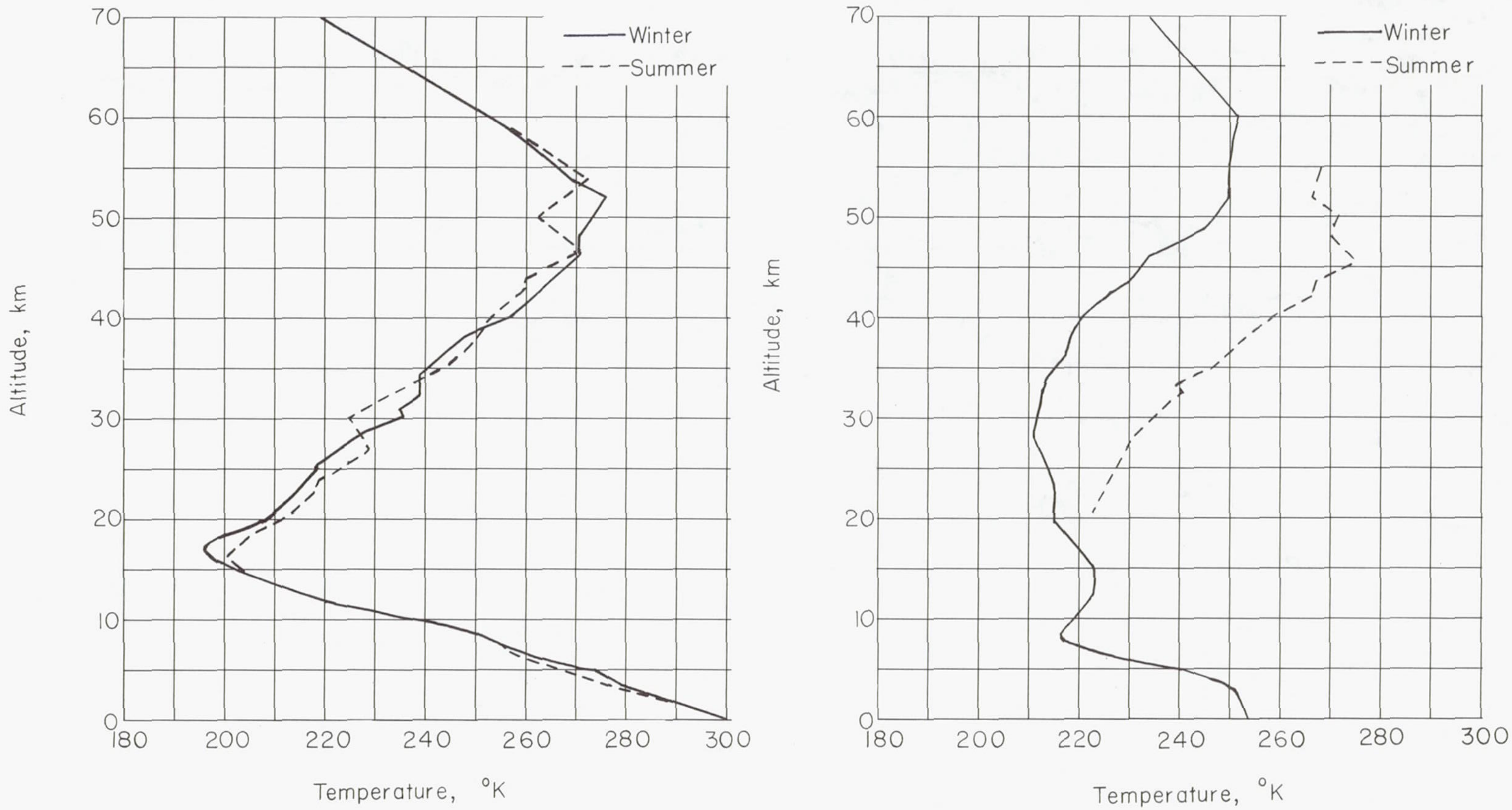


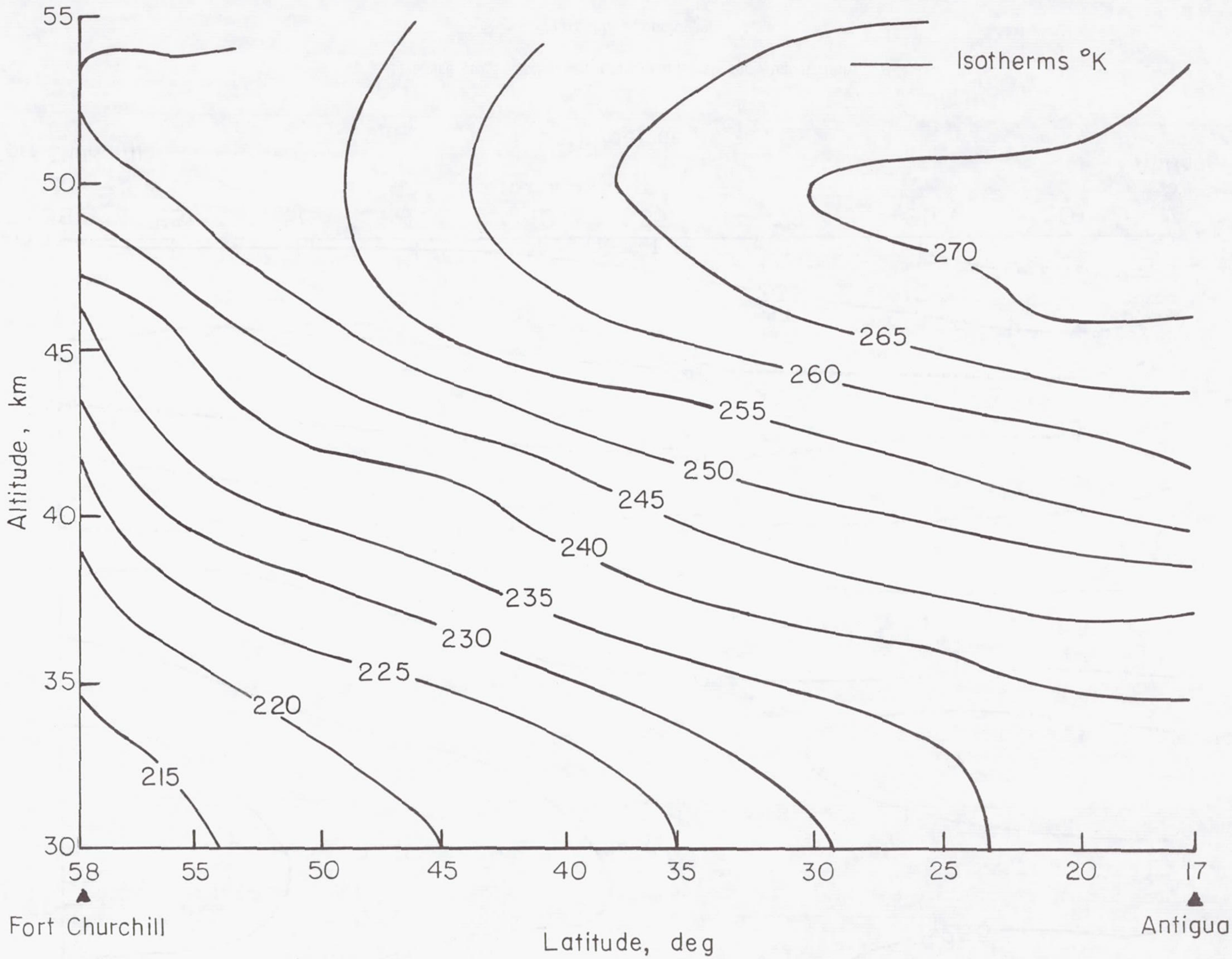
Figure 8.- Seasonal variations of measured radiance profiles for 615 cm^{-1} to 715 cm^{-1} (CO_2).



(a) Temperature structure at Antigua (17°9' N,61°47' W).

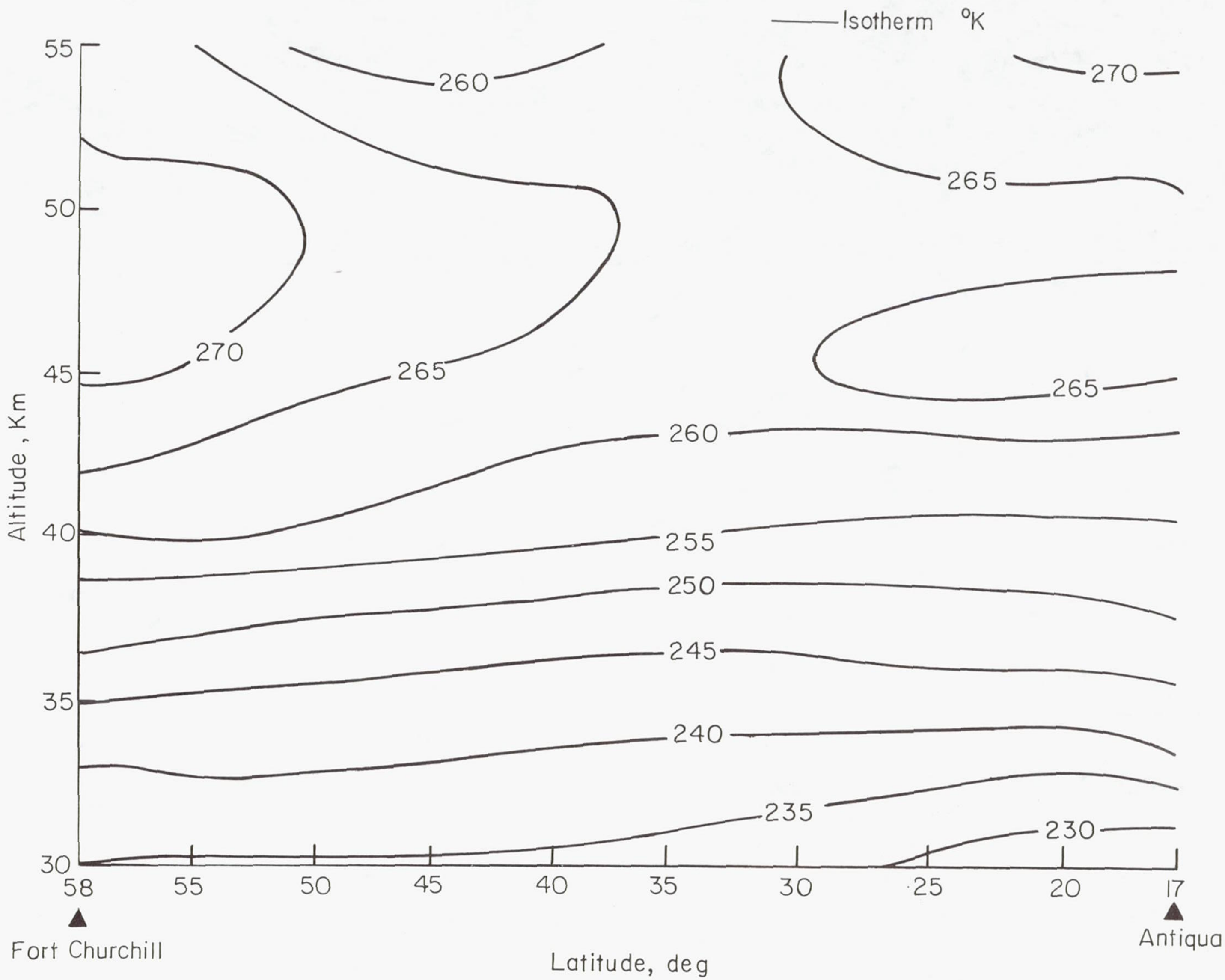
(b) Temperature structure at Fort Churchill (58°44' N,93°49' W).

Figure 9.- Comparison of summer and winter temperature structures.



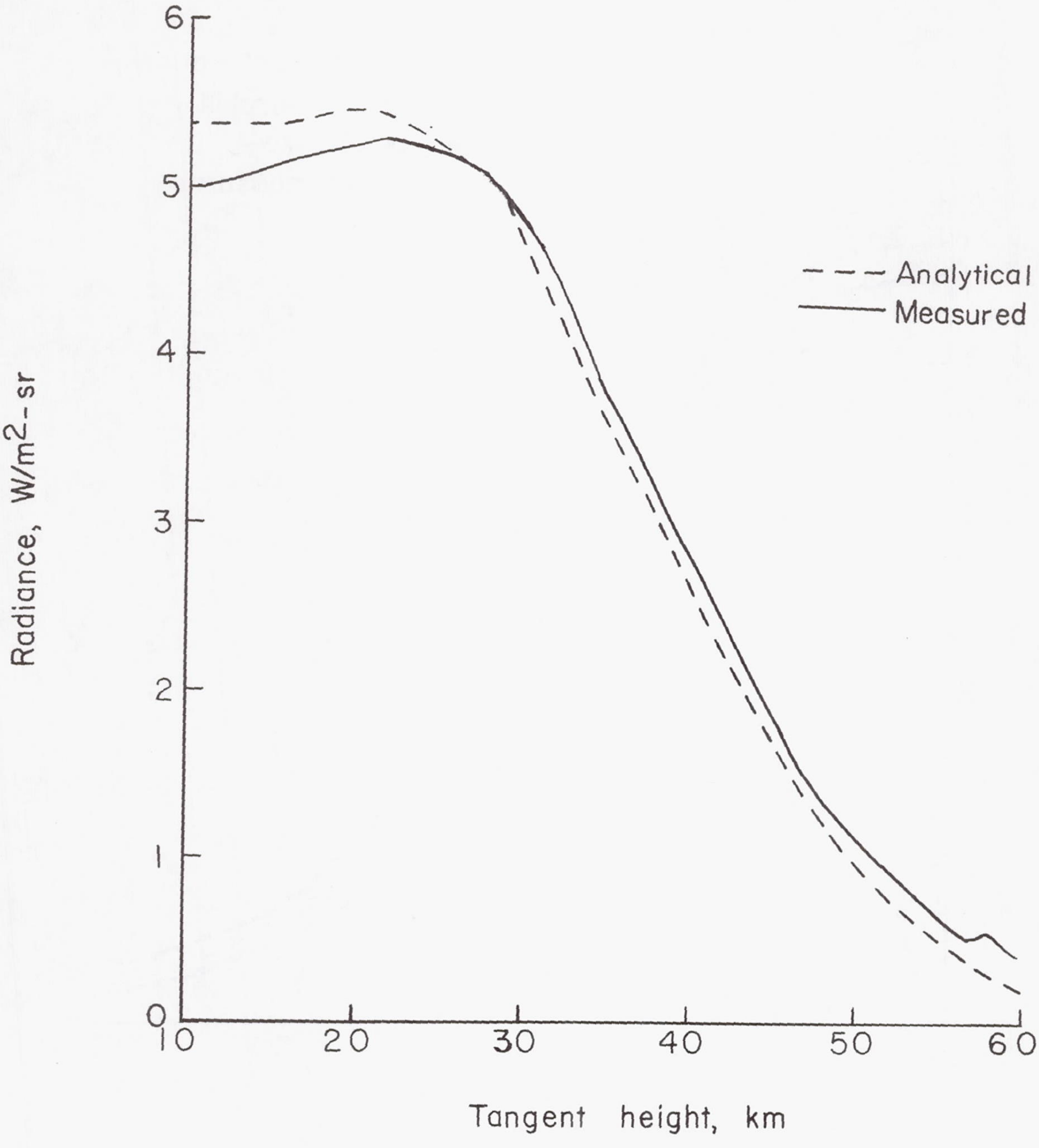
(a) Space cross-section temperature analysis for December flight.

Figure 10.- Space cross section of temperature analysis along line between Fort Churchill and Antigua.



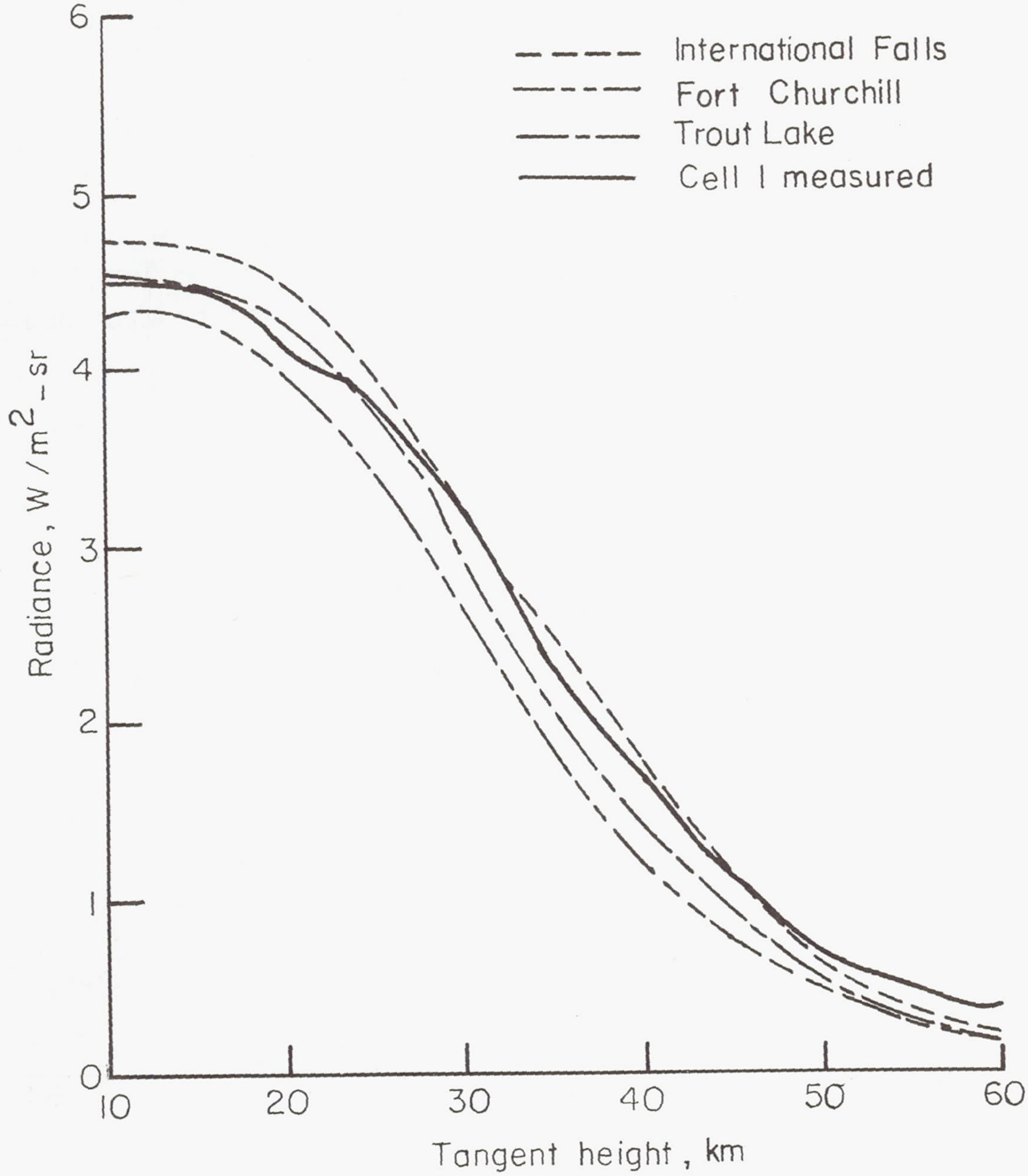
(b) Space cross-section temperature analysis for August flight.

Figure 10.- Concluded.



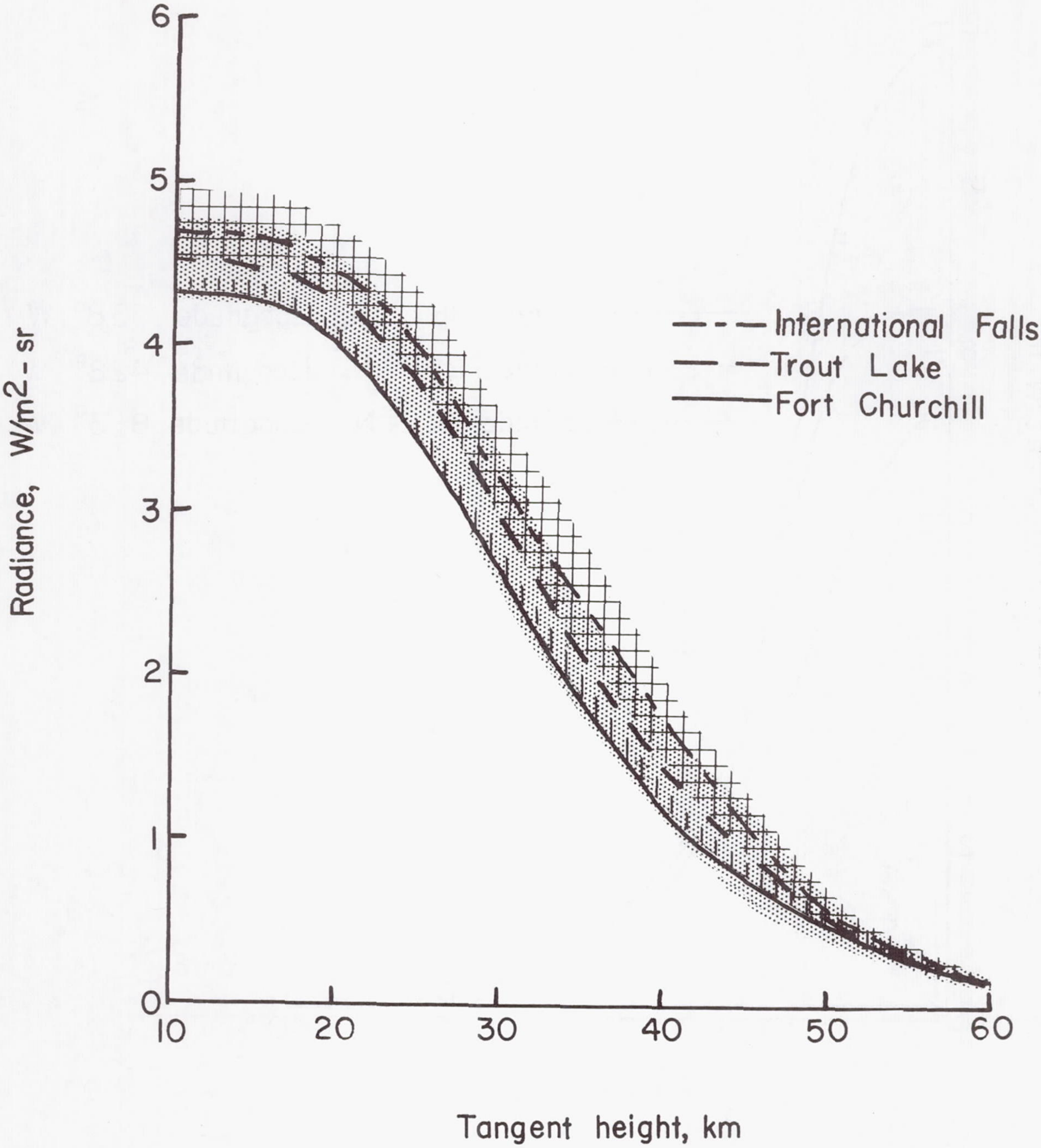
(a) Comparison at Antigua, cell 1.

Figure 11.- Comparison of measured and analytical profiles for 615 cm^{-1} to 715 cm^{-1} under winter meteorological conditions.



(b) Comparison in cell 1.

Figure 11.- Continued.



(c) Error bounds on analytical radiance profiles in cell 1.

Figure 11.- Concluded.

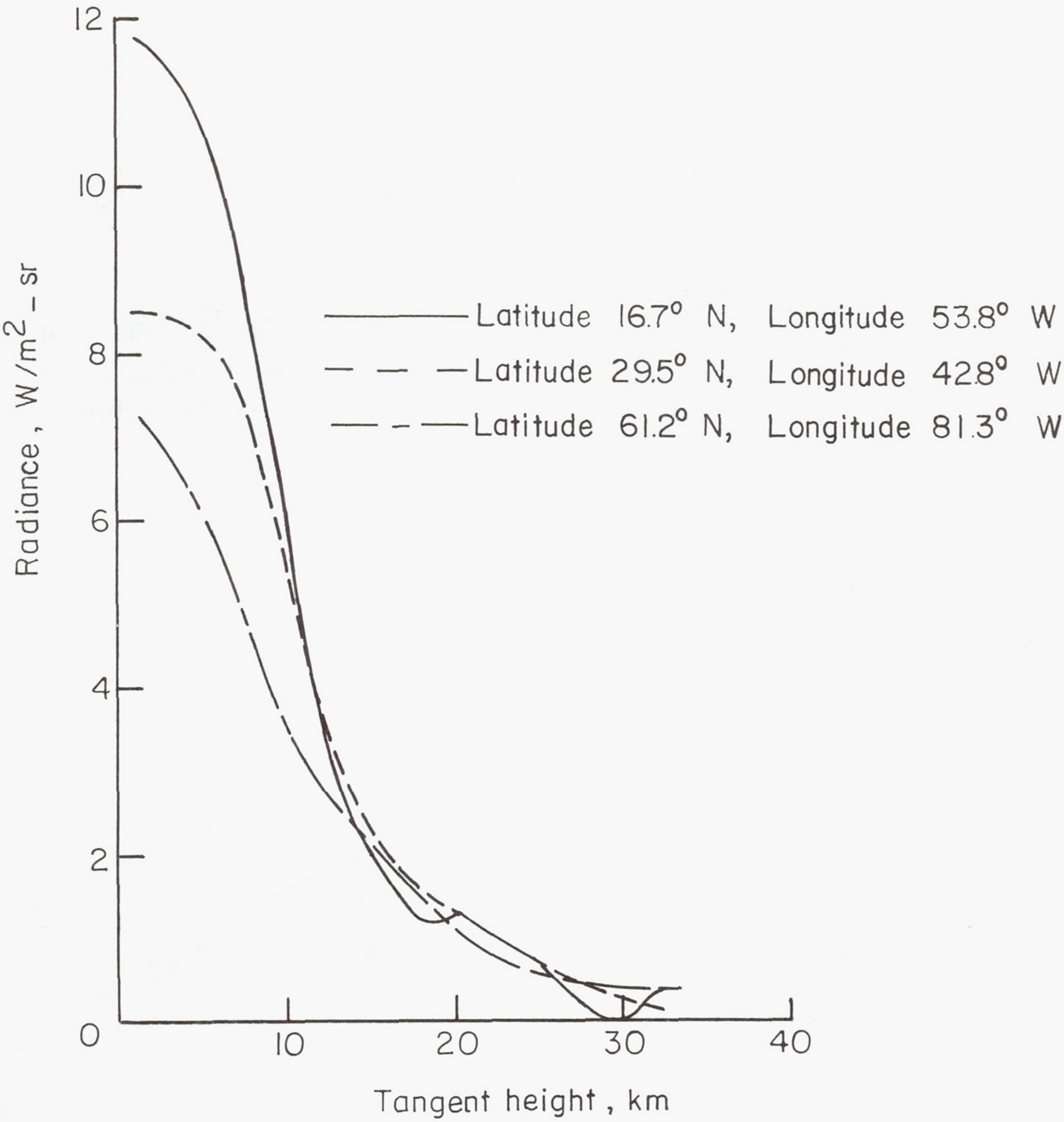


Figure 12.- Measured radiance profiles in 315 cm^{-1} to 475 cm^{-1} band.

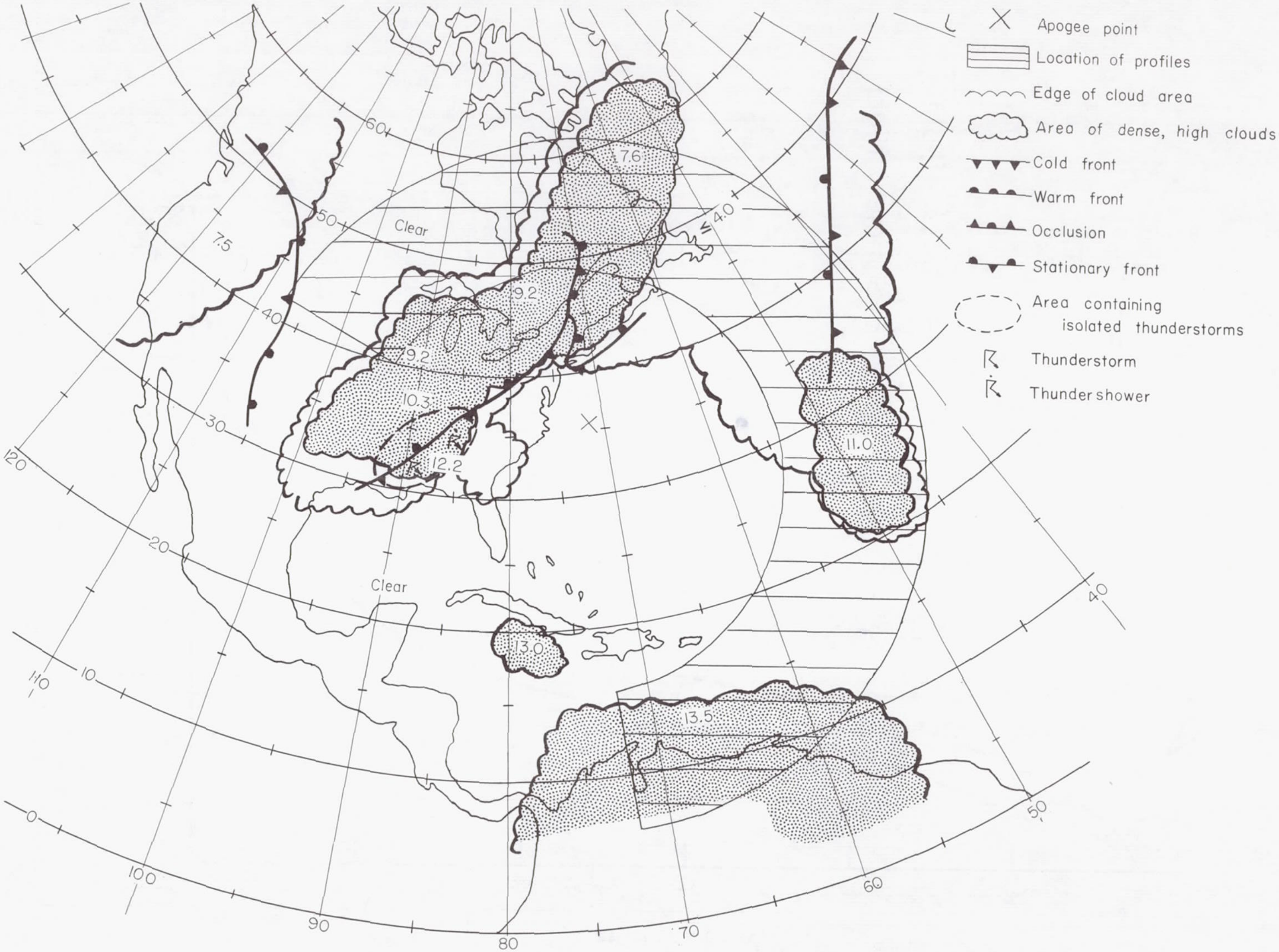


Figure 13.- Nephanalysis and significant weather 0000 GMT, December 10, 1966.

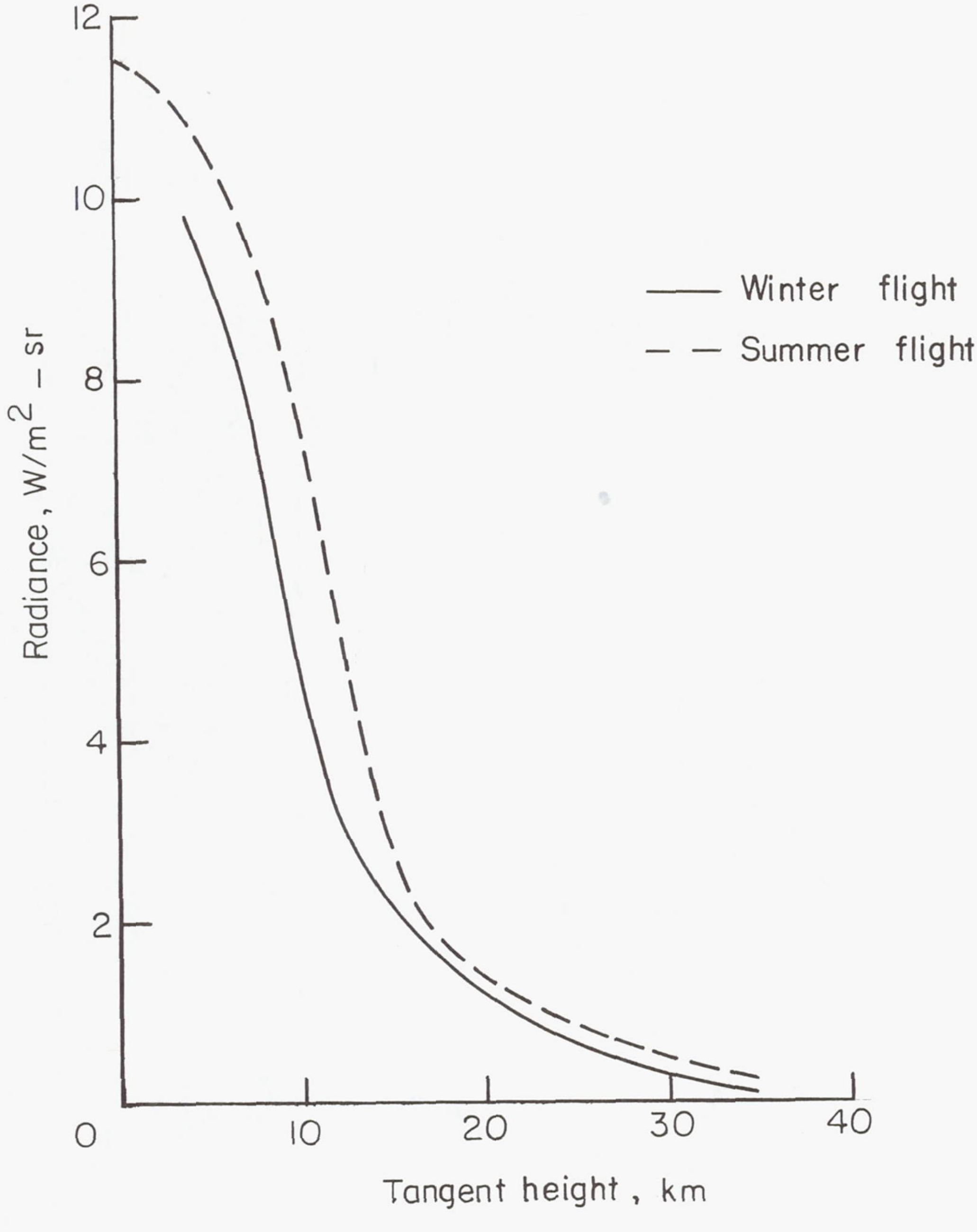


Figure 14.- Comparison of average of several radiance profiles for the 315 cm^{-1} to 475 cm^{-1} band for summer and winter flight at low latitudes.

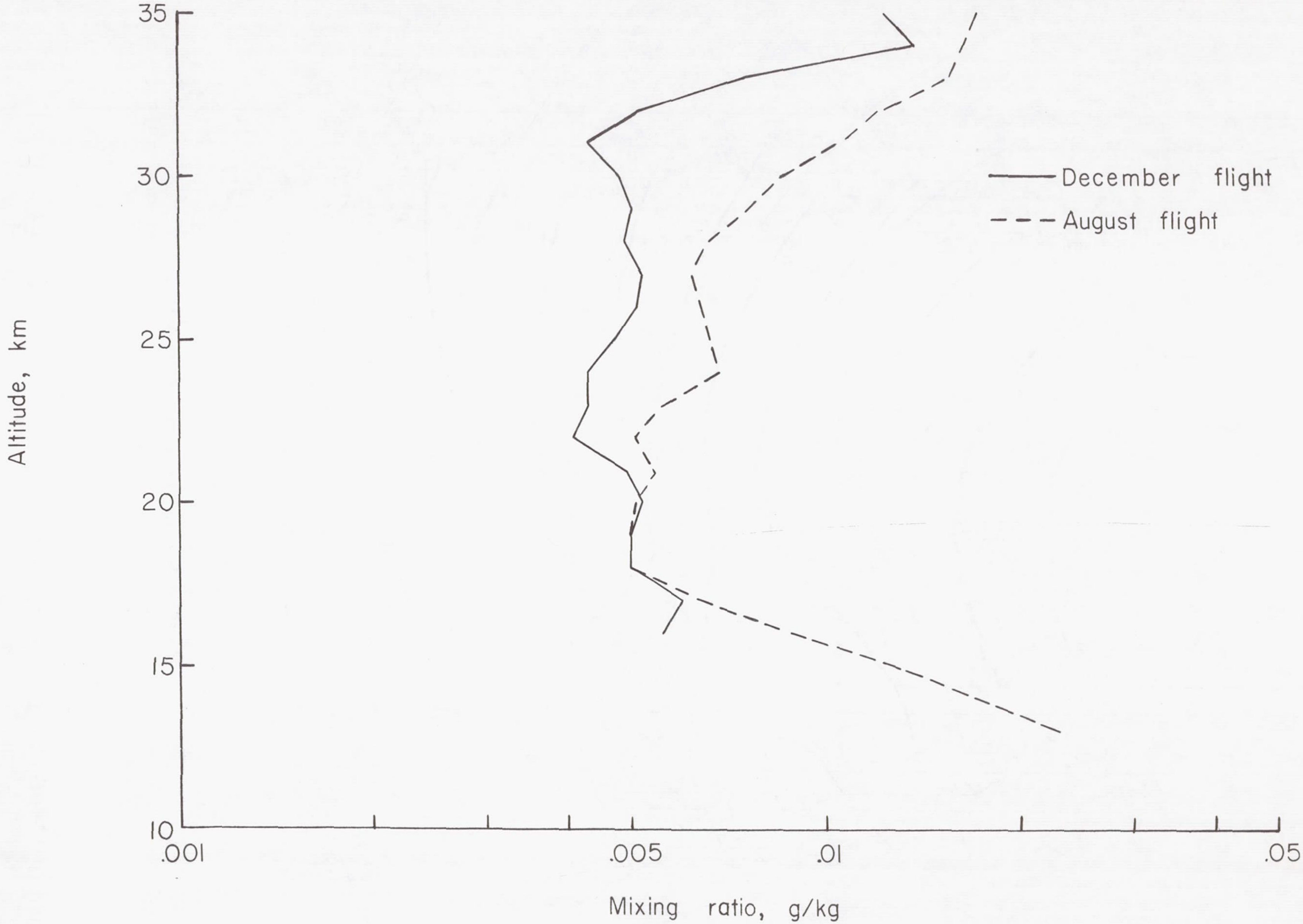
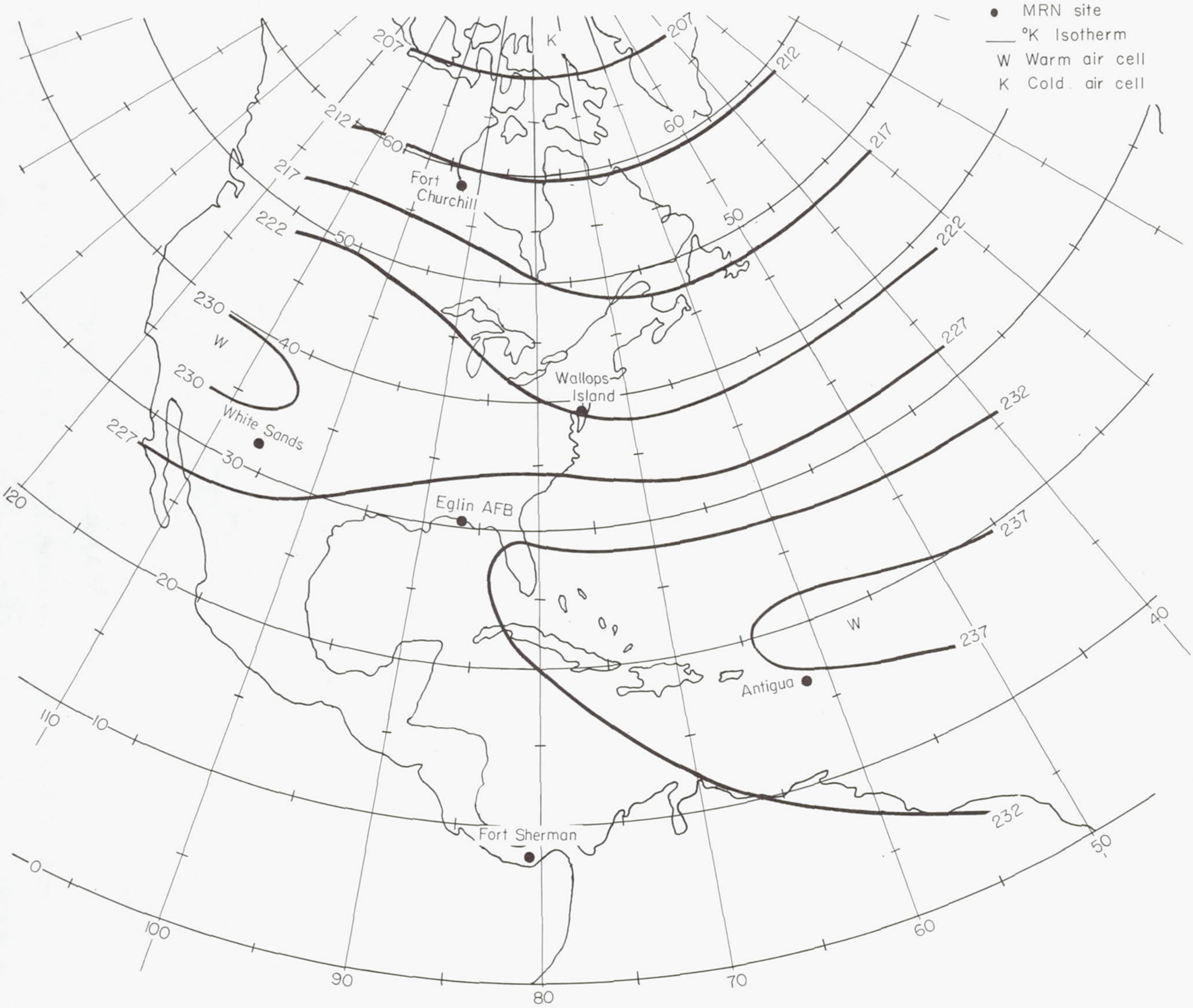
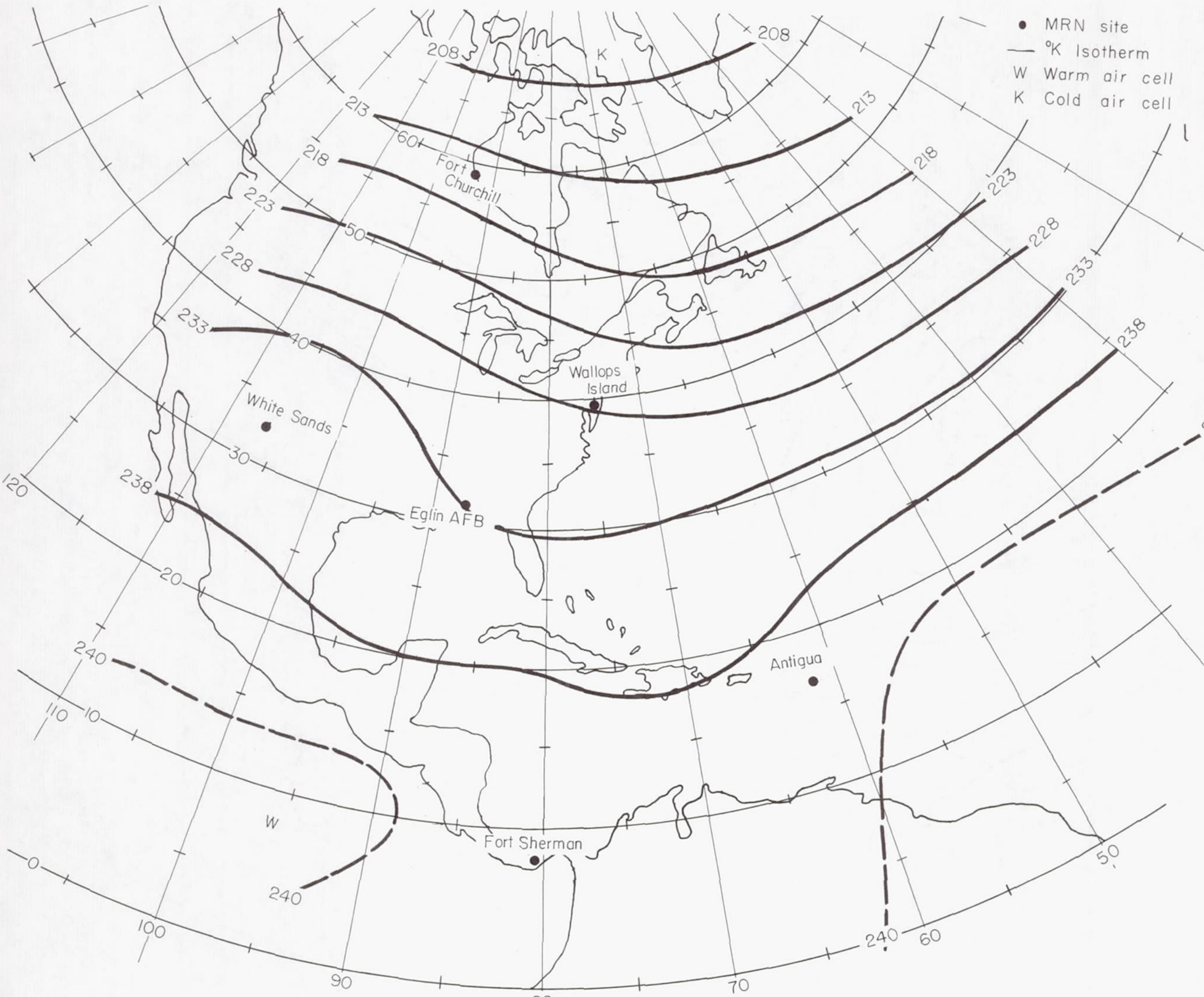


Figure 15.- Comparison of deduced mixing rations for August flight and December flight at low latitudes.



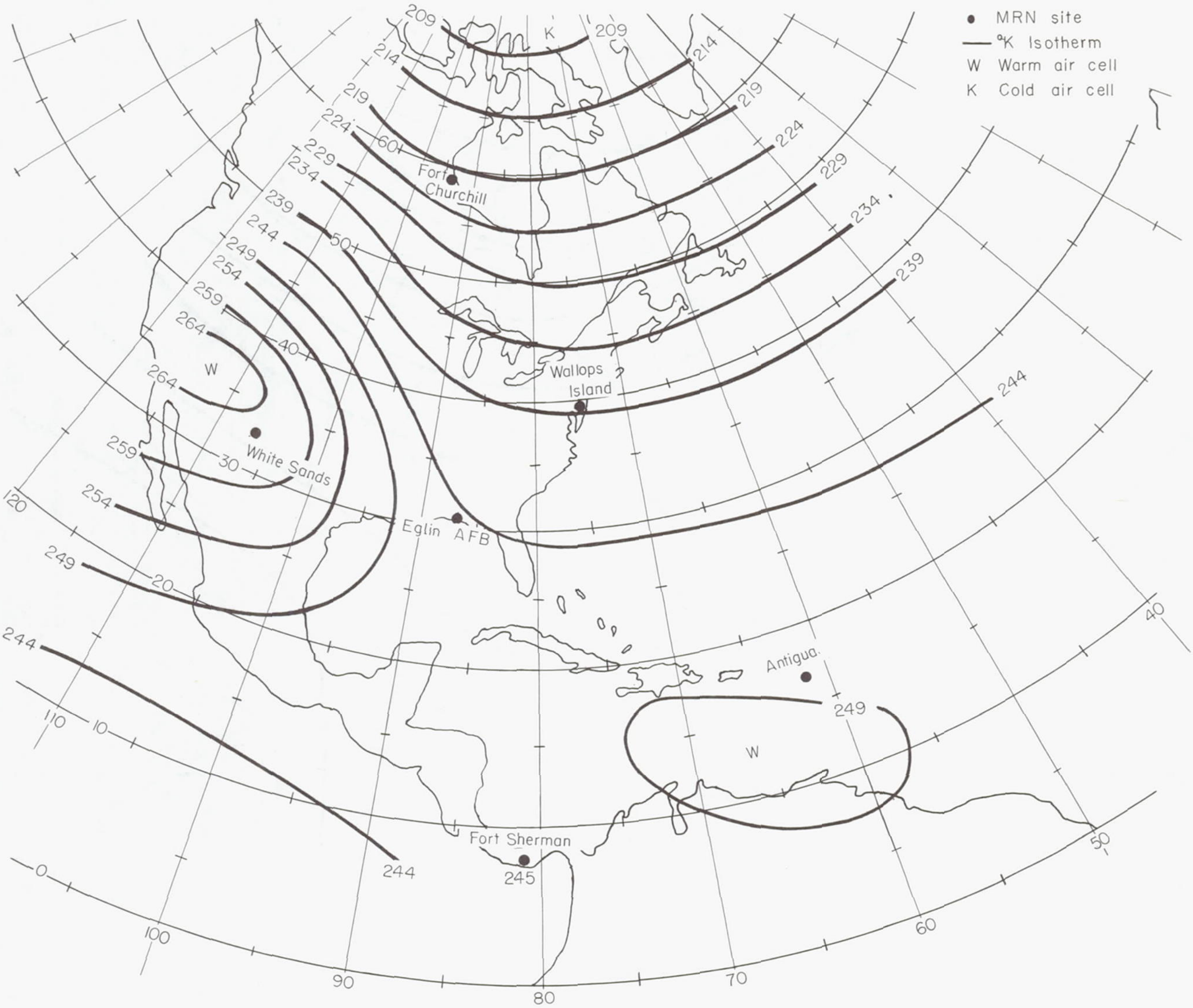
(a) 30 km.

Figure 16.- Temperature analysis for December flight.



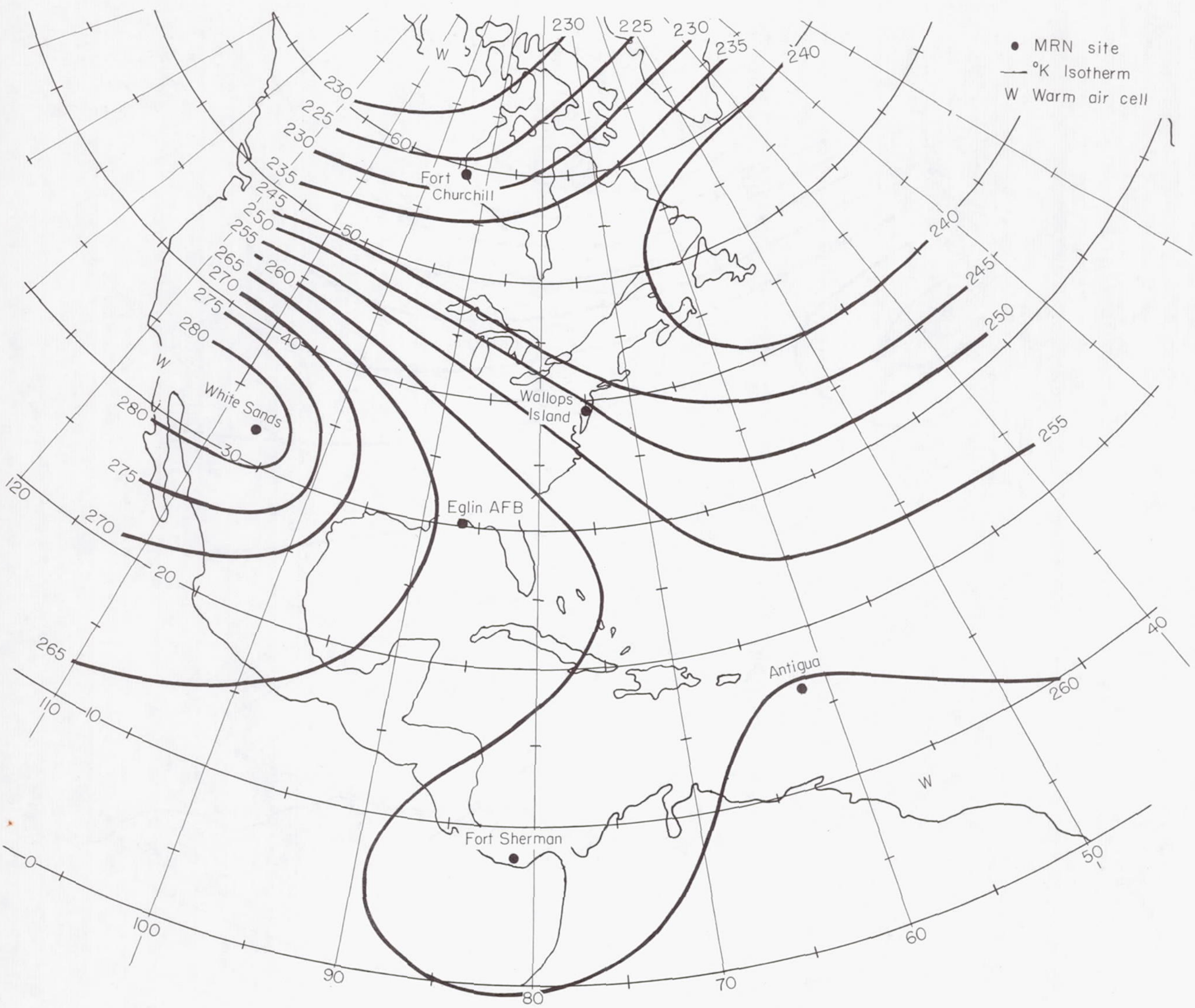
(b) 34 km.

Figure 16.- Continued.



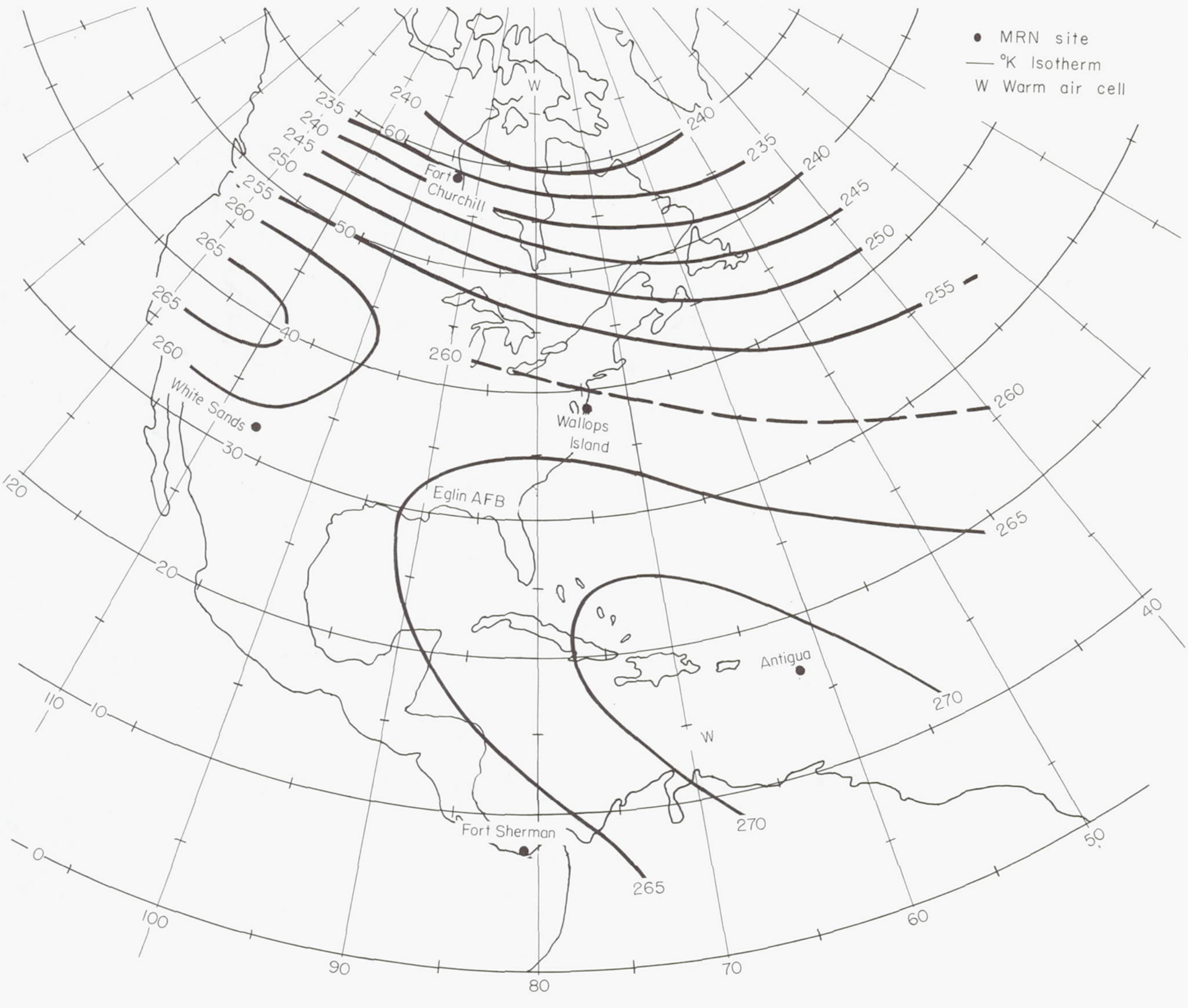
(c) 38 km.

Figure 16.- Continued.



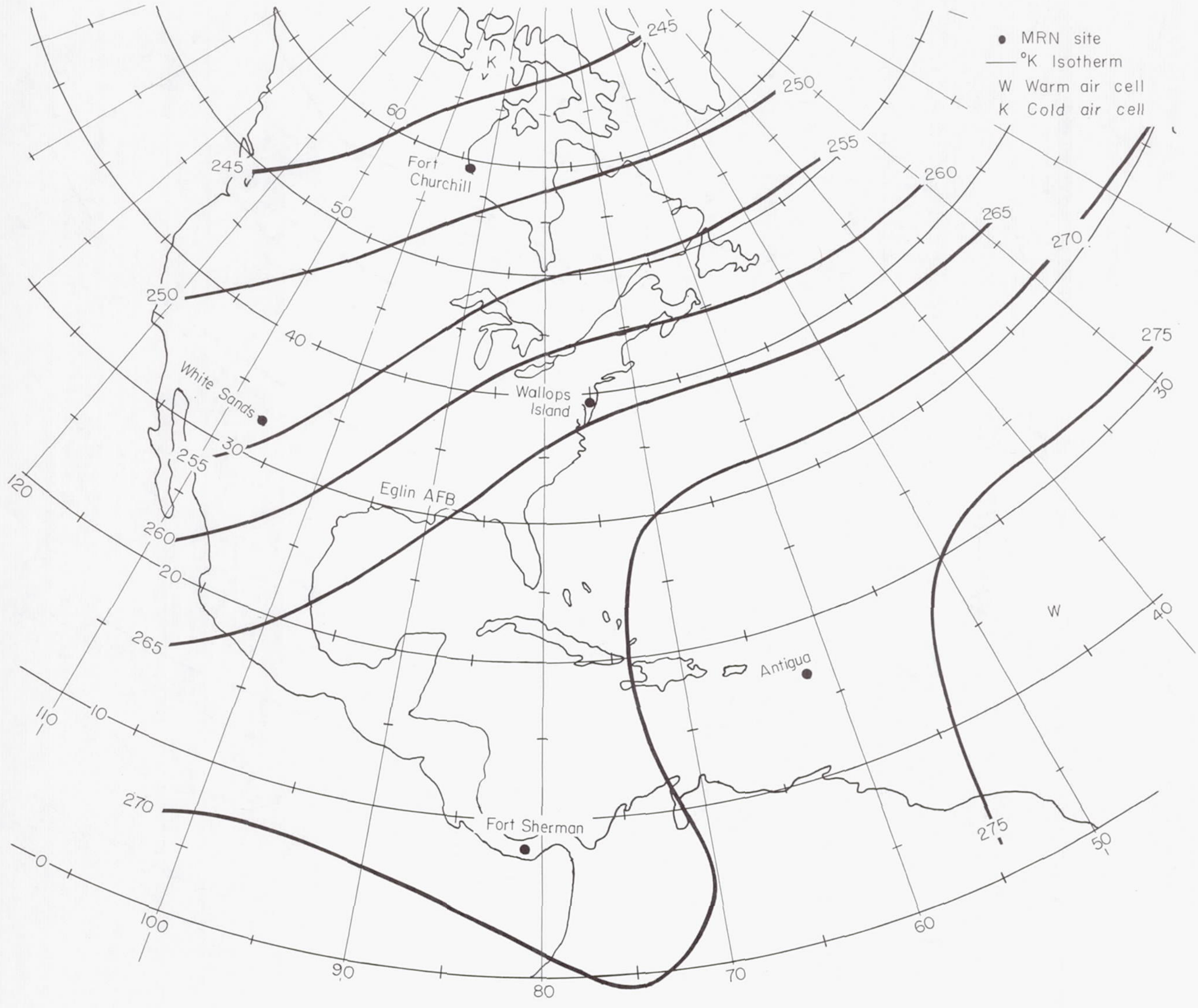
(d) 42 km.

Figure 16.- Continued.



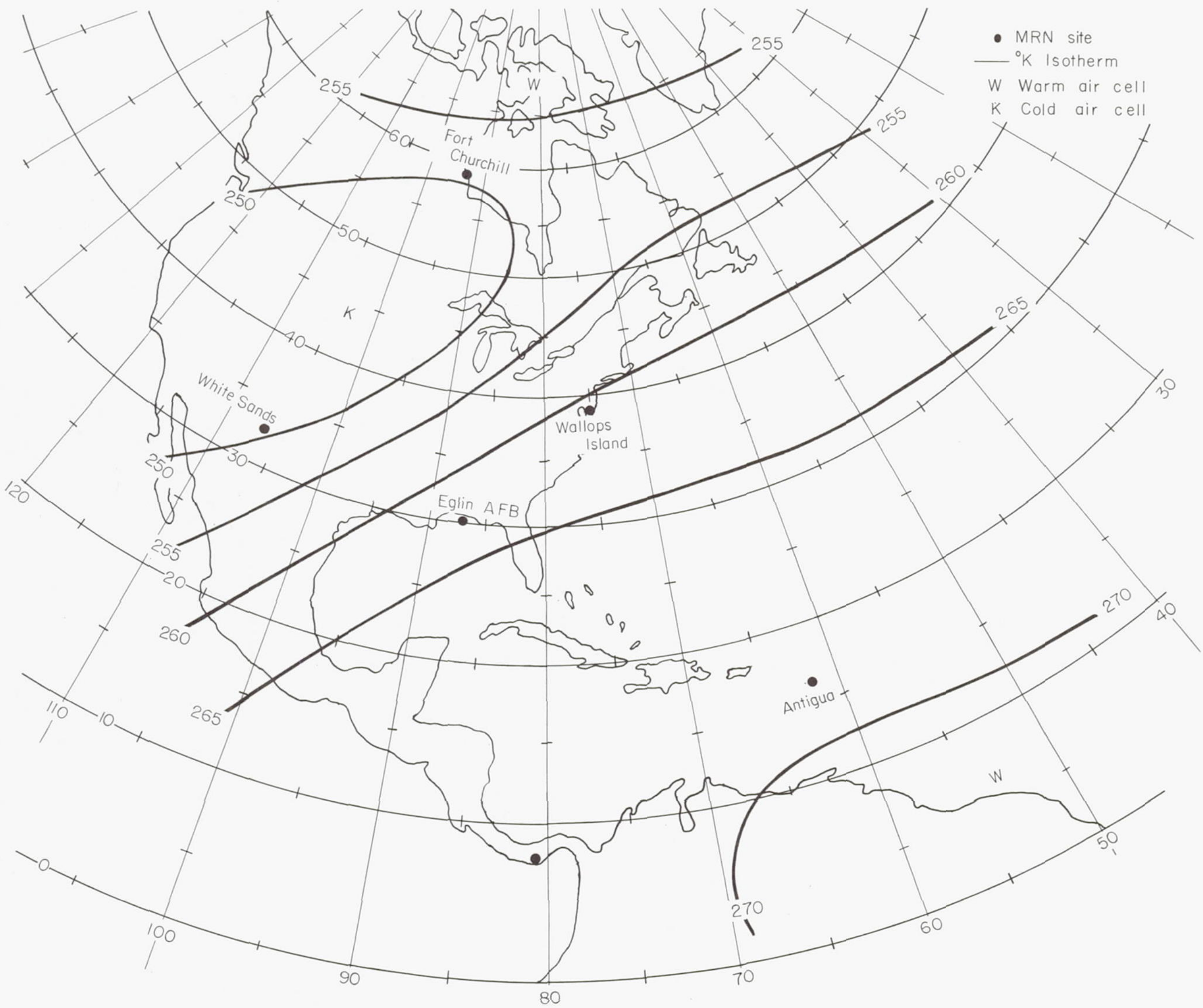
(e) 46 km.

Figure 16.- Continued.



(f) 50 km.

Figure 16.- Continued.



(g) 54 km.

Figure 16.- Concluded.

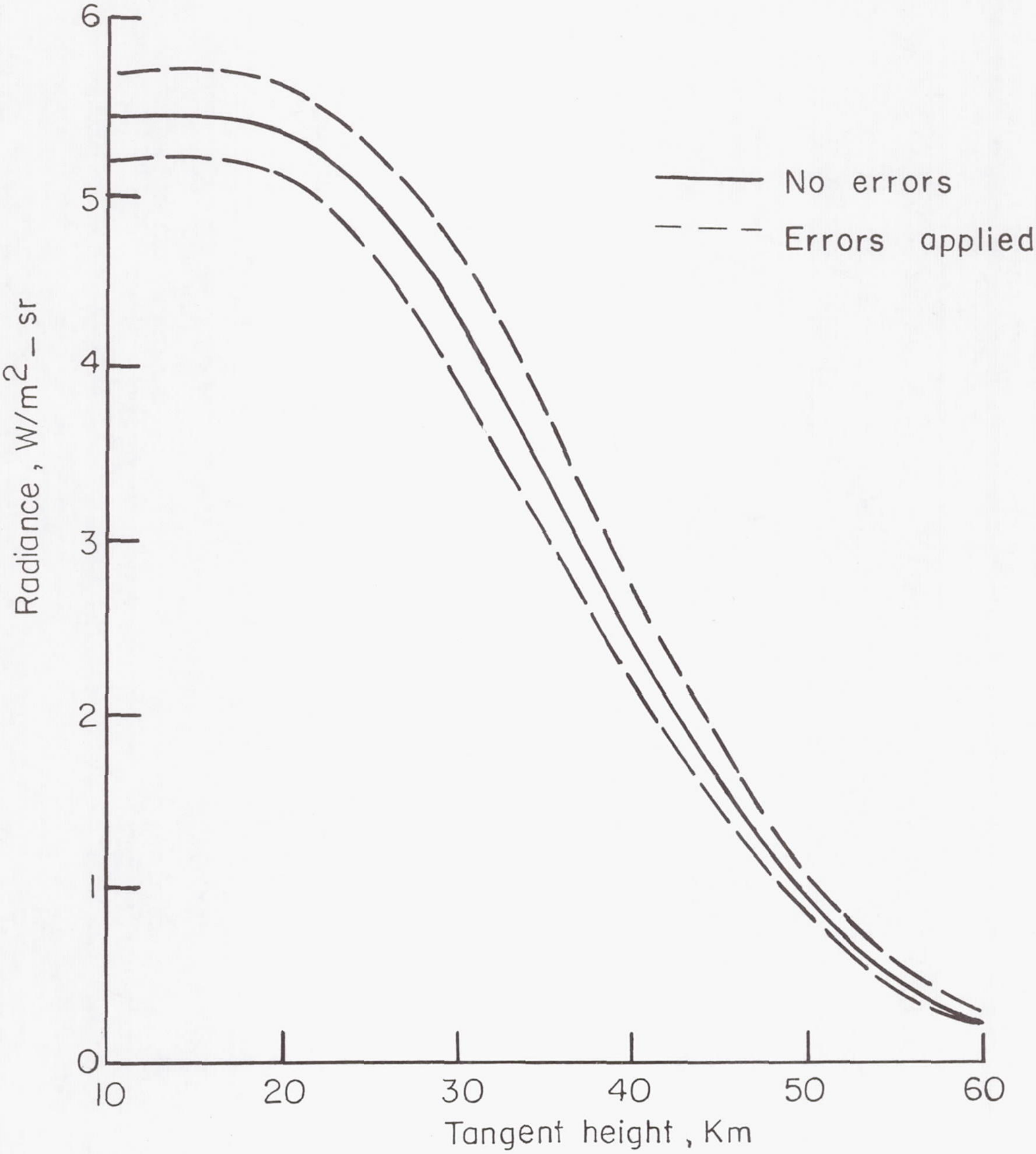


Figure 17.- Error analysis for meteorological data for 615 cm^{-1} to 715 cm^{-1} (CO_2).